

# INDEX TO VOLUME ON MANUFACTURES.

[The figures in last column marked thus (\*) refer to Introductory Remarks.]

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>A.</b>				
Acetate of lime.....	Chemical Products and Salt.....		23	1013
Acid, sulphuric, and its uses.....	.....do.....		29	1010
Africa, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
the manufacture of iron in.....	Iron and Steel.....		33-35	760-771
Agents, expert special, list of.....	Introductory Remarks.....		ix	*9
special, advantages of, in collecting manufacturing statistics.....	.....do.....		viii, ix	*8, *9
and assistants, list of, for cities.....	Statistics of Manufactures.....		v-viii	5-8
power given Superintendent of Census to appoint.....	Introductory Remarks.....		viii	*8
Aggry beads made in Phoenicia.....	Glass Manufacture.....		60	1093
Agricultural implements.....	Statistics of Manufactures.....	VII	446, 447	456, 457
extent and geographical distribution of manufacture of.....	Introductory Remarks.....		xxi	*21
geographical distribution of manufacture of.....	Interchangeable Mechanism.....	Table.	70-75	686-691
power used in manufacture of.....	Power used in Manufactures.....	Table.	11	503
Air-blast, cooling heated molds by.....	Glass Manufacture.....		49	1087
bubbles in glass.....	.....do.....		44	1082
effect of, on pots.....	.....do.....		43	1081
space, average amount of, required by factory operatives.....	Factory System.....	Table.	37	559
<b>Alabama:</b>				
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	88, 89	98, 99
by totals of counties, in.....	.....do.....	IV	88	98
Power used in manufactures in.....	Power used in Manufactures.....	Table.	19	511
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	193, 194	203, 204
The manufacture of iron in.....	Iron and Steel.....		101, 102	837, 838
Albany, N. Y., account of glass-making at.....	Glass Manufacture.....		93, 94	1131, 1132
manufactures of.....	Statistics of Manufactures.....	VI	381	391
Alexandria, Va., manufacture of glass at.....	Glass Manufacture.....		78	1116
Alienat, Spanish soda of.....	.....do.....		31	1069
Alkalies and other materials used in glass-making.....	.....do.....		30-34	1068-1072
Alkaline incrustations or efflorescences in Nevada, analyses of.....	Chemical Products and Salt.....		14	1004
rocks in Germany.....	Glass Manufacture.....		28	1066
use of, for bottle-glass.....	.....do.....		28	1066
Allghony City, Pa., manufactures of.....	Statistics of Manufactures.....	VI	381, 382	391, 392
Allgheny county, Pa., manufacture of glass in.....	Glass Manufacture.....		88	1126
Allon, D. G., special agent, collection of manufacturing statistics of Wilkesbarre, Pa.....	Statistics of Manufactures.....	VI	444	454
Alpaca.....	Wool Manufacture.....	Table.	11, 12	973, 974
Alter, Dr David, of Froeport, Pa.....	Chemical Products and Salt.....		21	1011
Alumina in glass.....	Glass Manufacture.....		34	1072
Amelurg, John Frederick, petition of.....	.....do.....		95	1133
America and factory legislation.....	Factory System.....		58	590
cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
American cotton-gin and its inventor, Eli Whitney.....	Factory System.....		7	539
fire-clay used.....	Glass Manufacture.....	Table.	18	1056
glass, quality of (note).....	.....do.....		69	1107
invention, pressed glass an.....	.....do.....		58	1096
pot-clay, analyses of.....	.....do.....	Table.	40	1078
sand, Bontemps quoted on.....	.....do.....		26	1064
deposits of.....	.....do.....		28	1066
mode of occurrence of.....	.....do.....		25	1063
silk-mills, machinery of.....	Silk Manufacture.....		18	922
stained glass (note).....	Glass Manufacture.....		89	1107
system of interchangeable mechanism adopted in foreign countries.....	Interchangeable Mechanism.....		3, 4	619, 620
in fire-arms.....	.....do.....		2	618
in watch-making.....	.....do.....		60	676

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Ammonia process for making soda .....	Glass Manufacture .....		31	1069
Ammunition .....	Statistics of Manufactures .....	III	15	25
manufacture of .....	Interchangeable Mechanism .....		30	046
Analyses of alkaline incrustations or efflorescences in Nevada .....	Chemical Products and Salt .....		14	1004
of bitters .....	do .....		22	1012
of bottle-glass .....	Glass Manufacture .....	Table.	23	1061
of brines and rock-salt in the United States .....	Chemical Products and Salt .....	Table.	27	1017
of chrome ore found in California .....	do .....		20	1010
of common salt prepared for market .....	do .....	Table.	27	1017
of English sand .....	Glass Manufacture .....		26, 27	1004, 1065
of flint-glass .....	do .....	Table.	23	1061
of foreign glass-sands .....	do .....	Table.	29	1007
of French pot-clay .....	do .....	Table.	40	1078
of French sand .....	do .....		27	1065
of German pot-clay .....	do .....	Table.	40	1078
of glass-sands of the United States .....	do .....	Table.	30	1068
of lead, lime, and plate-glass .....	do .....	Tables.	23	1061
of sand not always indicative of quality .....	do .....		25	1063
of Scotch pot-clay .....	do .....	Table.	40	1078
of South Carolina phosphates .....	Chemical Products and Salt .....		19	1009
of Stourbridge pot-clay .....	Glass Manufacture .....	Table.	40	1078
of window-glass .....	do .....	Table.	23	1061
Analysis of American pot-clay .....	do .....	Table.	40	1078
of the factory and workshop act of 1878 so far as it applies to textile factories in Great Britain .....	Factory System .....		60-62	592-594
of window-glass found at Pompeii .....	Glass Manufacture .....		56	1094
Andres, Philip, special agent, collection of manufacturing statistics of Omaha, Nebr. . .	Statistics of Manufactures .....	VI	419	499
Annealing cartridge-shells .....	Interchangeable Mechanism .....		30	046
flint-glass .....	Glass Manufacture .....		51	1089
ovens, description of, in glassware factories .....	do .....		4	1042
for plate-glass .....	do .....		46	1084
plate-glass .....	do .....		45	1083
sewing-machine parts .....	Interchangeable Mechanism .....		43	059
Annual settlement of wages in glass works .....	Glass Manufacture .....		8	1046
Anthracite coal, history of its use in the iron manufacture .....	Iron and Steel .....		113-117	849-853
used in chemical manufacture .....	Chemical Products and Salt .....		1	991
Anviling cartridges .....	Interchangeable Mechanism .....		31	047
Apparatus for heating and steam-fittings .....	Statistics of Manufactures .....	III	75	85
for soda-water .....	do .....	III	73	83
for telephones and telegraphs .....	do .....	III	77	87
photographic .....	do .....	III	64	74
Appendix to Introductory Remarks .....	Introductory Remarks .....		xii-xlix	*41-*40
Appliances, surgical .....	Statistics of Manufactures .....	III	77	87
Apprentice act and its provisions .....	Factory System .....		55	587
system, abolition of .....	do .....		57	589
Architectural and ornamental iron work .....	Statistics of Manufactures .....	III	48, 49	58, 59
<b>Arizona:</b>				
Manufactures, by specified industries, in .....	do .....	IV	89	99
by totals of counties, in .....	do .....	IV	80	99
Power used in manufactures in .....	Power used in Manufactures .....	Table.	19	511
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	194	204
<b>Arkansas:</b>				
Big Creek bloomery in Lawrence county, built in 1857 .....	Iron and Steel .....		111	847
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	91	101
by totals of counties, in .....	do .....	IV	90	100
Power used in manufactures in .....	Power used in Manufactures .....	Table.	19	511
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	195	205
Arkwright and his machine .....	Factory System .....		2, 3	594, 595
plan of spinning and its introduction into the United States by Samuel Slater	do .....		7	599
Arrests from among factory operatives .....	do .....	Tables.	81-93	563-565
Arrott, William, chief special agent, collection of manuf'g statistics of Philadelphia, Pa.	Statistics of Manufactures .....	VI	421	491
Arsenic used, amount of .....	Glass Manufacture .....	Table.	18	1056
use of, in glass-making .....	do .....		25, 34	1063, 1072
Art glass .....	do .....		52	1090
Artificial feathers and flowers .....	Statistics of Manufactures .....	III	15	25
fuel .....	do .....	III	40	50
glass, definition of (note) .....	Glass Manufacture .....		20	1058
ice .....	Statistics of Manufactures .....	III	46	56
limbs .....	do .....	III	15	25
Art uses of glass .....	Glass Manufacture .....		22	1060
Ashley, John E., special agent, collection of manuf'g statistics of Somerville, Mass. . .	Statistics of Manufactures .....	VI	438	448

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Asia, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
iron first used in.....	Iron and Steel.....		33-35	769-771
Asiatic pongees, manufacture of.....	Silk Manufacture.....		18	922
silk and its use in the United States.....	do.....		19	923
Aspinwall, Nathaniel, his exertions in extending the silk culture.....	do.....		13, 14	917, 918
Assyrian glass, character of.....	Glass Manufacture.....		61	1099
Atkinson, Edward, his Report on Cotton Manufacture.....	Cotton Manufacture.....		i-III, 1-17	937-957
Atlanta, Ga., manufactures of.....	Statistics of Manufactures.....	VI	382	392
Attendance on sewing-machine tools.....	Interchangeable Mechanism.....		41	657
Atwood, Mr. John E., letter of, on the history of silk machinery.....	Silk Manufacture.....		27, 28	931, 932
Auburn, N. Y., manufactures of.....	Statistics of Manufactures.....	VI	382, 383	392, 393
Augers and bits, manufacture of.....	Hardware, Cutlery, and Edge-tools.....		13, 14	719, 720
Augusta, Ga., manufactures of.....	Statistics of Manufactures.....	VI	383	393
Australia, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
Austria, cotton consumption of.....	do.....	Table.	2	942
glass-spinning in.....	Glass Manufacture.....		75	1113
quartz still used in.....	do.....		28	1066
revival of the iron industry in.....	Iron and Steel.....		39, 40, 153	775, 776, 889
Austria-Hungary, analysis of factory laws and regulations of.....	Factory System.....		62-64	594-596
certain articles in proposed new factory law in (1882).....	do.....		63, 64	595, 596
glass manufacture in.....	Glass Manufacture.....	Table.	44	1082
manufacture of flowers, wearing fabrics, etc., from glass, in.....	do.....		75	1113
number of plate-glass factories in.....	do.....		70	1108
present condition of manufacture of glass in.....	do.....		74	1112
specialty of, in glass-making.....	do.....		70	1108
statistics of glass manufacture in.....	do.....	Table.	76	1113
Austrian glass houses, sources of supply of sand for.....	do.....		28	1066
pots, size of.....	do.....		41	1070
Average amount of air-space required by each factory operative.....	Factory System.....	Table.	27	550
of power, steam- and water-, reported per hand employed (1870-1880).....	Power used in Manufactures.....	Table.	1	493
daily earnings, fallacy of usual statements regarding.....	Glass Manufacture.....	Table.	6	1044
net earnings of the different classes of operatives in cotton factories of Eng- land.....	Factory System.....	Table.	37	569
number of hands employed.....	Silk Manufacture.....		26	930
power of water-wheels and steam-engines reported (1870 and 1880).....	Power used in Manufactures.....	Table.	1	493
wages paid men and women in a large number of factories in New England during the years 1842-43.....	Factory System.....	Table.	45	577
to girls (women) per week in the year 1828 for two of the best known factories in Massachusetts.....	do.....		44	576
weekly wages in English cotton factories in the years 1839, 1849, and 1859, return of.....	do.....	Table.	40, 41	572, 578
of men, women, and boys in English cotton factories in 1870-'71.....	do.....	Table.	43	575
Awnings and tents.....	Statistics of Manufactures.....	III	15	25
Axle-grease.....	do.....	III	15	25
Ax manufacture.....	Hardware, Cutlery, and Edge-tools.....		13	719
<b>B.</b>				
Babbitt metal and solder.....	Statistics of Manufactures.....	III	16	26
Baccarat works, establishment of.....	Glass Manufacture.....		66	1104
Bagging, flax, hemp, and jute.....	Statistics of Manufactures.....	III	16	26
Bags, other than paper.....	do.....	III	16	26
paper.....	do.....	III	16	26
Baines, Mr. Edward, and the cotton manufactures.....	Factory System.....		26	568
Bakery products.....	Statistics of Manufactures.....	III	23	33
Bakewell, Mr. Thomas, and the manufacture of glass at Pittsburgh.....	Glass Manufacture.....		86	1124
Baking and yeast powders.....	Statistics of Manufactures.....	III	16, 17	26, 27
Balance-making (watches).....	Interchangeable Mechanism.....		66	682
Balances and scales.....	Statistics of Manufactures.....	III	71	81
Balls, method of manufacture of, by pressing.....	Glass Manufacture.....		48	1086
Balmorals.....	Wool Manufacture.....	Table.	10	972
Baltimore, Md., glass works, establishment of.....	Glass Manufacture.....		95	1123
manufactures of.....	Statistics of Manufactures.....	VI	383, 384	398, 394
Banners and flags.....	do.....	III	38	48
regalia, and society emblems.....	do.....	III	68	78
Bar and sheet lead, lead pipe, and shot.....	do.....	III	51	61
Barbarians, influence of, upon glass-making.....	Glass Manufacture.....		65	1103
Barce of Bretagne.....	do.....		31	1069
Barilla, Spanish.....	do.....		31	1069
Bar iron and blooms from ore, total production of.....	Iron and Steel.....		8	744
Barnes, T. Atwater, special agent, collection of manuf'g statistics of New Haven, Conn.....	Statistics of Manufactures.....	VI	415	425
Barrel-bedding.....	Interchangeable Mechanism.....		17	63-

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Barrels and casks used.....	Glass Manufacture.....	Table.	18	1056
Basalt, decomposed, use of, for manufacturing (note).....	do.....		20	1058
Baskets, rattan and willow-ware.....	Statistics of Manufactures.....	III	17	27
Bastie glass, method of manufacture of.....	Glass Manufacture.....		53	1091
Batch, constituents of the.....	do.....		41	1079
preliminary heating of.....	do.....		43	1081
proportion of, in glass houses of Austria-Hungary.....	do.....		44	1082
Bates, George D., special agent, collection of manuf'g statistics of Hartford, Conn.....	Statistics of Manufactures.....	VI	404	414
Batteries of lathes.....	Interchangeable Mechanism.....		39	655
Battery jars, method of manufacture of, by pressing.....	Glass Manufacture.....		48	1086
Bavarian Protestants, silk culture at Ebenezer, Ga., by.....	Silk Manufacture.....		9	913
Bay City, Mich., manufactures of.....	Statistics of Manufactures.....	VI	385	395
Bayonet-rolling.....	Interchangeable Mechanism.....		20	636
Beads, manufacture of, in Virginia.....	Glass Manufacture.....		78	1116
Beavers.....	Wool Manufacture.....	Table.	9, 14	971, 976
Bedding stock trimmings.....	Interchangeable Mechanism.....		17	633
Beds, spring, and mattresses.....	Statistics of Manufactures.....	III	58	68
Beer-bottles, number made.....	Glass Manufacture.....		11	1049
Beets and grapes, potash made from.....	do.....		32	1070
Beet sugar and molasses.....	Statistics of Manufactures.....	III	77	87
Belgian bottle-glass, constituents of.....	Glass Manufacture.....	Table.	43	1081
glass.....	do.....		73, 74	1111, 1112
sand, sources of supply of.....	do.....		27	1065
window-glass.....	do.....		69	1107
Belgium, cotton consumption of.....	Cotton Manufacture.....	Table.	2	342
iron manufacture of.....	Iron and Steel.....		30, 163	775, 889
production of plate-glass in.....	Glass Manufacture.....		70	1108
Belgium's specialty in glass-making.....	do.....		69	1107
Bellaire, Ohio, glass-making at.....	do.....		70	1117
Bellows.....	Statistics of Manufactures.....	III	17	27
Bells.....	do.....	III	17	27
Belting and hose.....	do.....	III	17, 18	27, 28
Beni-Hassan, figures on tombs at.....	Glass Manufacture.....		57	1005
glass-making figured on tombs at.....	do.....		59	1097
Benrath's definition of glass (note).....	do.....		10	1057
Benson, J. Milton, special agent, collection of manuf'g statistics of Springfield, Ohio.....	Statistics of Manufactures.....	VI	490	440
Benzine, use of.....	Glass Manufacture.....		4	1042
Bessemer and open-hearth steel works of the United States.....	Iron and Steel.....	III	20-22	758-758
steel, production of ( <i>see also</i> Steel).....	do.....	Table.	7	743
Bestor, Henry O., special agent, collection of manufacturing statistics of Peoria, Ill.....	Statistics of Manufactures.....	VI	421	431
Bibliography.....	Factory System.....		79, 74	605, 606
Billiard tables and materials.....	Statistics of Manufactures.....	III	18	28
Binding.....	Wool Manufacture.....	Table.	11	973
Bitterns, analyses of.....	Chemical Products and Salt.....		22	1012
Bituminous coal: History of its use in the iron manufacture in the United States.....	Iron and Steel.....		117-119	853-855
used in the chemical manufacture.....	Chemical Products and Salt.....		1	991
Blackburn, J. M., special agent, collection of manuf'g statistics of Covington, Ky.....	Statistics of Manufactures.....	VI	397	407
Blacking.....	do.....	III	18	28
Blacksmithing.....	do.....	III	18, 19	28, 29
and carpentering industries, geographical distribution, aggregate product, and product per capita of the.....	Introductory Remarks.....	Table.	xxi	*21
Blank-book making and book-binding.....	Statistics of Manufactures.....	III	19	29
Blankets and blanketing.....	Wool Manufacture.....	Table.	9	971
Blast-furnace slag, a glass (note).....	Glass Manufacture.....		20	1058
relative composition of, and glass.....	do.....	Table.	54	1092
Blast-furnaces of the United States.....	Iron and Steel.....	I	10-13	748-749
Blast, use of, in cooling glass.....	Glass Manufacture.....		44	1082
Blinds and shades, window.....	Statistics of Manufactures.....	III	85	95
doors, and sash.....	do.....	III	70	80
sash, and doors, power used in manufacture of.....	Power used in Manufactures.....	Table.	16	508
Blisters in glass, cause of.....	Glass Manufacture.....		45	1083
Blisters in steel ( <i>see</i> Steel).....				
Bloomeries and forges of the United States.....	Iron and Steel.....	V	24	700
Blooms and bar iron from ore.....	do.....		8	744
from pig and scrap-iron.....	do.....		8	744
Blowing and pressing united to produce same form of glass.....	Glass Manufacture.....		45	1083
flint ware.....	do.....		51	1089
glass.....	do.....		50	1088
in molds.....	do.....		51	1089

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Blown plate, definition of	Glass Manufacture		20	1058
how made	do		51	1080
window-glass, early manufacture of	do		57	1095
Bluing	Statistics of Manufactures	III	19	29
Board, leather	do	III	51	61
Bodine, John T., on early glass-making in New Jersey	Glass Manufacture		96	1134
Bodley, John H., special agent, collection of manufacturing statistics of Newport, Ky.	Statistics of Manufactures	VI	410	426
Bohemian glass	Glass Manufacture		67, 68	1105, 1106
definition of	do		21	1059
houses, time of melting in	do		44	1082
pots, size of	do		41	1079
quality of	do		70, 74	1108, 1112
lime flint-glass, constituents of	do	Table.	42	1080
Boilers in glass factories	do	Table.	4, 5	1042, 1043
Boland, C. G., special agent, collection of manufacturing statistics of Scranton, Pa.	Statistics of Manufactures	VI	437	447
Boit-cutting	Interchangeable Mechanism		56	672
Bolts, nuts, washers, and rivets (iron)	Statistics of Manufactures	III	47	57
Bond, George William, his Report on Wool Manufacture	Wool Manufacture		i-iii, 1-22	950-984
Bone and ivory work	Statistics of Manufactures	III	49	59
Bone, ivory-, and lamp-black	do	III	19	29
Boutemps quoted on American sand	Glass Manufacture		26	1064
Book-binding and blank-book making	Statistics of Manufactures	III	19	29
Boot and shoe cut stock and uppers	do	III	20	30
Boots and shoes (custom work, repairing, and factory industry)	do	III	20, 21	30, 31
(factory industry only)	do	VII	448	458
industry, extent and geographical distribution of the	Introductory Remarks		xx, xxi	*20, *21
power used in manufacture of	Power used in Manufactures	Table.	11	508
rubber	Statistics of Manufactures	III	21	31
Boston, Mass., manufacture of crown-glass at	Glass Manufacture		80	1127
manufactures of	Statistics of Manufactures	VI	385, 386	365, 366
Borax (biborate of soda) and its production in California	Chemical Products and Salt		21	1011
Borax works of Nevada	do		21	1011
Bottle-glass (note)	Glass Manufacture		20	1058
analyses of	do	Table.	23	1061
Belgian, English, and French, constituents of	do	Table.	43	1081
flint and, manufactured in Europe	do		72	1116
materials used for, proportion of	do	Table.	43	1081
Pittsburgh, constituents of	do	Table.	43	1081
pots, size of	do		41	1079
the term hollow ware applied to	do		21	1050
use of alkaline rocks for	do		28	1066
Bottles, manufacture of, in France	do		73	1111
in window-glass houses	do		84	1122
pressing	do		48	1086
Bounties authorized by state legislatures for the encouragement of silk culture	Silk Manufacture		15, 16	910, 920
Boxes, cigar	Statistics of Manufactures	III	21	31
fancy and paper	do	III	21	31
wooden, packing	do	III	22	32
Boyd, William H., chief special agent, collection of manufacturing statistics of Washington, D. C.	do	VI	443	453
Boyle, John T., special agent, collection of manufacturing statistics of Harrisburg, Pa.	do	VI	404	414
Braiding or braids	Wool Manufacture	Table.	13	975
Brands and stencils	Statistics of Manufactures	III	75	85
Brass and copper, rolled or cast, and brass ware	do	III	22	32
Brazing on sights	Interchangeable Mechanism		29	645
Bread and other bakery products	Statistics of Manufactures	III	23	33
Brick and stone masonry	do	III	57	67
and tile	do	VII	449	459
Bridgeport, Conn., manufactures of	Statistics of Manufactures	VI	387	397
Bridgeport, Ohio, glass-making at	Glass Manufacture		79	1117
Bridges	Statistics of Manufactures	III	28	33
Brindley, James, the effect of his discoveries on the development of the factory system	Factory System		4	536
Brimes and rock-salt in the United States, analyses of	Chemical Products and Salt	Table.	27	1017
instruments used in determining the density of	do		27	1017
Britannia and plated ware	Statistics of Manufactures	III	65	75
British exports and imports of glass	Glass Manufacture	Tables.	72	1110
islands, modern manufacture of glass in	do		68	1106
Bronching mortises in gun parts	Interchangeable Mechanism		29	645
Bromine and its manufacture in the United States by Dr. David Altar	Chemical Products and Salt		21	1011
establishments engaged in production of	do	Table.	22	1012
Bronze castings	Statistics of Manufactures	III	23	33
Brooklyn, N. Y., manufactures of	do	VI	387, 388	397, 398

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Brooms and brushes .....	Statistics of Manufactures .....	III	24	34
Brushes and brooms .....	do .....	III	24	34
Bubbles in glass .....	Glass Manufacture .....		44	1082
Buell, Adelbert E., special agent, collection of manufacturing statistics of Oswego, N. Y. ....	Statistics of Manufactures .....	VI	420	430
Buffalo hair and noils .....	Wool Manufacture .....	Table.	2, 6, 14-16, 18	{ 964, 968, 970- 978, 980
Buffalo, N. Y., manufactures of .....	Statistics of Manufactures .....	VI	389	399
Building locomotives, time of .....	Interchangeable Mechanism .....		57	673
Bullet-making .....	do .....		31	647
Bunting .....	Wool Manufacture .....	Table.	11	973
Bunting, Abram S., special agent, collection of manuf'g statistics of Dubuque, Iowa. ....	Statistics of Manufactures .....	VI	400	410
Burgin furnaces, number of .....	Glass Manufacture .....		4	1042
Burial-cases, coffins, and undertakers' goods .....	Statistics of Manufactures .....	III	20, 30	39, 40
Burt, Roderick, special agent, collection of manuf'g statistics of Springfield, Mass. ....	do .....	VI	438	448
Burt, William J., special agent, collection of manuf'g statistics of Fall River, Mass. ....	do .....	VI	402	412
Bushnell, J. P., special agent, collection of manuf'g statistics of Des Moines, Iowa. ....	do .....	VI	399	409
Butter and cheese (factory) .....	do .....	VII	450	460
Buttons .....	do .....	III	24	34
Butt-riveting .....	Hardware, Cutlery, and Edge-tools .....		9	715
Butts, brass, making .....	do .....		12	718
Byrne, Edward J., special agent, collection of manuf'g statistics of Galveston, Tex. ....	Statistics of Manufactures .....	VI	403	413
Byzantine glass .....	Glass Manufacture .....		62	1100
<b>C.</b>				
Cabell, James A., special agent, collection of manuf'g statistics of Richmond, Va. ....	Statistics of Manufactures .....	VI	430	440
Cabs (locomotive) first used .....	Interchangeable Mechanism .....		45	661
Calcar arch .....	Glass Manufacture .....		43	1081
Calcasieu parish, La., and its sulphur deposit .....	Chemical Products and Salt .....		19	1000
Calcium lights .....	Statistics of Manufactures .....	III	24	34
<b>California:</b>				
Chrome ore found in, analyses of .....	Chemical Products and Salt .....		20	1010
History of glass-making in .....	Glass Manufacture .....		98	1136
of iron manufacture in .....	Iron and Steel .....		112	848
of salt industry in .....	Chemical Products and Salt .....		28	1018
Legislature of California and its encouragement to silk culture .....	Silk Manufacture .....		28	932
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	92-94	102-104
by totals of counties, in .....	do .....	IV	91, 92	101, 102
Power used in manufactures in .....	Power used in Manufactures .....	Table.	19	511
Production of borax in .....	Chemical Products and Salt .....		21	1011
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	195-199	205-209
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	15	1053
Cambridge, Mass., manufactures of .....	Statistics of Manufactures .....	VI	300	400
Cam-cutting .....	Interchangeable Mechanism .....		37	658
Camden, N. J., manufactures of .....	Statistics of Manufactures .....	VI	390	400
Camel's hair and noils .....	Wool Manufacture .....	Table.	{ 2, 6, 12, 14- 16, 19	{ 964, 968, 974, 976-978, 981
Canada, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
first iron works in, established in 1737 .....	Iron and Steel .....		112, 113	848, 849
Candles and soap .....	Statistics of Manufactures .....	III	73	83
Canes and umbrellas .....	do .....	III	81	91
Canned and preserved fruits and vegetables .....	do .....	III	40	50
Cap and hat materials .....	do .....	III	45	55
Capital in all manufactures: 1850-1880 .....	do .....	I	5-8	15-18
in arms manufacture .....	Interchangeable Mechanism .....		4, 5	620, 621
in chemical manufacture .....	Chemical Products and Salt .....		1	991
in industries: 1850-1880 .....	Introductory Remarks .....	Tables.	x, xi	*10, *11
in iron and steel industries .....	Iron and Steel .....		2	738
in locomotive manufacture .....	Interchangeable Mechanism .....		49	665
in manufacture of agricultural implements .....	do .....		82	693
in manufacture of edge-tools .....	Hardware, Cutlery, and Edge-tools .....	Table.	14	720
in manufacture of files and saws .....	do .....		18	724
in manufacture of glass .....	Glass Manufacture .....		3	1041
in manufacture of hardware .....	Hardware, Cutlery, and Edge-tools .....		6	712
in manufacture of sewing-machines .....	Interchangeable Mechanism .....		33, 34	649, 650
in manufactures .....	Introductory Remarks .....		xxxix	*39
in silk manufacture .....	Silk Manufacture .....	Table.	26	930
in watch-making .....	Interchangeable Mechanism .....		61-68	677-684
in woolen manufacture .....	Wool Manufacture .....	Table.	{ 2, 4, 12, 14- 16, 18	{ 964, 966, 974, 976-978, 980
Caps and hats, not including wool hats .....	Statistics of Manufactures .....	III	45, 46	55, 56
Car and carriage springs .....	do .....	III	74	84
Carbonate glass, color of .....	Glass Manufacture .....		31	1069

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Carbon, use of, in glass .....	Glass Manufacture .....		84	1072
Cardboard .....	Statistics of Manufactures .....	III	24	34
Card cutting and designing .....	do .....	III	24	34
Carders, reelers, and doublers, their wages at different periods .....	Factory System .....	Table.	30	571
Carding and spinning, and the encouragement given Robert and Alexander Barr by Massachusetts for the introduction of machinery for .....	do .....		6	538
Cards, postal .....	Statistics of Manufactures .....	III	60	76
sets of, and daily capacity in woolen manufacture .....	Wool Manufacture .....	Table.	4, 12, 14- 16, 18	960, 974, 976- 978, 980
Car-fare registers .....	Statistics of Manufactures .....	III	68	78
Caron, C. K., chief special agent, collection of manuf'g statistics of Louisville, Ky. ....	do .....	VI	408	418
Carpentering .....	do .....	III	24, 25	34, 35
and blacksmithing industries, extent and geographical distribution of aggregate product, and product per capita of the .....	Introductory Remarks .....	Table.	xxi	*21
Carpets .....	Wool Manufacture .....	Table.	11, 16, 17	973, 978, 970
other than rag .....	do .....	Table.	2, 16, 17	964, 978, 970
power used in manufacture of .....	Power used in Manufactures .....	Table.	11	503
rag .....	Statistics of Manufactures .....	III	25	35
wood .....	do .....	III	25	35
Carriage and car springs .....	do .....	III	74	84
and wagon materials .....	do .....	III	25, 26	35, 36
Carrriages and sleds, children's .....	do .....	III	26	36
and wagons .....	do .....	III	26, 27	36, 37
extent and geographical distribution of manufacture of .....	Introductory Remarks .....		xxi, xxii	*21, *22
power used in manufacture of .....	Power used in Manufactures .....	Table.	12	504
Cars, railroad and street .....	Statistics of Manufactures .....	III	27	37
Carthaginian glass .....	Glass Manufacture .....		61	1099
Cartridge-varnishing .....	Interchangeable Mechanism .....		32	648
Carts in glass factories .....	Glass Manufacture .....	Table.	4, 5	1042, 1043
Carved and turned wood .....	Statistics of Manufactures .....	III	86	96
Cases for sewing-machines .....	do .....	III	71	81
for watches .....	do .....	III	83	93
Cashmere and cashmerettes .....	Wool Manufacture .....	Table.	10	972
Casks and barrels used at glass works .....	Glass Manufacture .....	Table.	18	1056
Cassimeres .....	Wool Manufacture .....	Table.	9, 12, 14, 15	971, 974, 976, 977
Castellani on Venetian glass manufacture .....	Glass Manufacture .....		76	1114
Casting and pressing related processes .....	do .....		45	1083
plate-glass .....	do .....		45	1083
Castings, brass .....	Statistics of Manufactures .....	III	22	32
bronze .....	do .....	III	23	33
Casting-tables in plate-glass factories .....	Glass Manufacture .....		4, 45	1042, 1083
Castor oil .....	Statistics of Manufactures .....	III	61	71
Cast plate, composition of .....	Glass Manufacture .....	Table.	19	1067
Cathedral plate, establishments producing .....	do .....		3	1041
Cave or ash-pit in glass furnaces .....	do .....		85	1073
Celluloid and celluloid goods .....	Statistics of Manufactures .....	III	27	37
Censuses, Ninth and Tenth, comparison of the statistics of power, as returned at the previous, omissions in glass statistics .....	Power used in Manufactures .....	Table.	1	493
Census of 1810, first introduction of manufacturing statistics at the .....	Glass Manufacture .....		2	1040
of 1810, information as to manufactures obtained at the. (Appendix to Intro- ductory Remarks.) .....	Introductory Remarks .....		v	*5
of 1820, industries returned at the, for state of New York .....	do .....		xli-xlix	*41-*40
of 1820, information regarding statistics of manufactures received at the .....	do .....		v, vi	*5, *6
of 1830, no industrial statistics received at the .....	do .....		v	*6
of 1830, industrial statistics received at the .....	do .....		vii	*7
of 1840, industrial statistics received at the .....	do .....	Table.	vii	*7
of 1850 the first at which reliable industrial returns were received .....	do .....		viii	*8
of 1860, returns of industrial statistics at the .....	do .....		viii	*8
of 1870, returns of industrial statistics at the .....	do .....		viii	*8
Superintendent of, power given to, by act of March 3, 1879, to appoint special agents. .....	Introductory Remarks .....		viii	*8
Tenth, returns of statistics of manufactures at the .....	Statistics of Manufactures .....		i-ix, 1-476	1-486
Center bearings in turning gun-barrels .....	Interchangeable Mechanism .....		9	625
Centers, geographical, of iron and steel production .....	Iron and Steel .....		5, 6	741, 742
of manufacture .....	Introductory Remarks .....	Tables.	xxi, xxiii	*22, *23
Central America, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
Chairs .....	Statistics of Manufactures .....	III	41	51
Chalybia, the early manufacture of iron and steel in .....	Iron and Steel .....		34-36	770-772
Chance, Mr. Henry, quoted on American sand .....	Glass Manufacture .....		26	1064
Chance's mixing machine .....	do .....		43	1081
Channel-rolling bullets .....	Interchangeable Mechanism .....		31	647
Chapman, C. W., special agent, collection of manuf'g statistics of New Bedford, Mass. ....	Statistics of Manufactures .....	VI	414	424
Charcoal .....	do .....	III	27	37

Subject	Subject of monograph	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Charges, mechanical	Glass Manufacture		43	1081
Charleston, S. C., manufactures of	Statistics of Manufactures	VI	391	401
Cheese and butter (factory)	do	VII	450	400
Chelsea, Mass., manufactures of	do	VI	391	401
Chemical fire-extinguishers	do	III	38	43
glass	Glass Manufacture		10	1057
industry, statistics of, by centers of manufacture, in 1880	Chemical Products and Salt	Table.	10, 11	1000, 1001
by states and territories, in 1880	do	Table.	4-9	994-999
lime flint-glass	Glass Manufacture	Table.	42	1080
production, general discussion of	Chemical Products and Salt		1	991
Products and Salt, Report on Manufacture of, by William L. Rowland	do		i-v, 1-38	985-1028
Chemicals and drugs	Statistics of Manufactures	III	34	44
and dyestuffs in woolen manufacture	Wool Manufacture	Table.	{ 8, 18-15, 17, 19	970, 975-977, 979, 981
Chemists' ware not included in Mr. Weeks' Report on Glass Manufacture	Glass Manufacture		1	1030
Chewing and smoking tobacco and snuff	Statistics of Manufactures	III	78	88
Chicago, Ill., manufactures of	do	VI	391-393	401-403
Chief special agents and assistants, list of, for cities	do	Table.	v-viii	5-8
Children and women employed in manufacturing industry	Introductory Remarks	Tables.	xxxiv, xxxv	*84, *95
employed in chemical manufacture	Chemical Products and Salt		1	991
in glass factories ( <i>see</i> statistical tables, <i>passim</i> ; <i>see also</i> Introductory Remarks)	Glass Manufacture		5	1043
Children's carriages and sleds	Statistics of Manufactures	III	26	30
Chilled truck-wheels	Interchangeable Mechanism		44	600
China, cotton consumption of	Cotton Manufacture	Table.	2	942
glass-making in	Glass Manufacture		64	1102
iron- and steel-making in	Iron and Steel		35	771
Chipping and filing locomotive work	Interchangeable Mechanism		53	669
Chocolate	Statistics of Manufactures	III	28	38
Christianity, influence of, on the manufacture of glass	Glass Manufacture		63	1101
Chrome-iron deposits in Maryland and in California	Chemical Products and Salt		20	1010
Chuck for plate-work in watches	Interchangeable Mechanism		63	679
Chucking-lathes in gun work	do		27	643
lathe, three-way	do		40	650
machinery for pinions	do		64	680
machines in sewing-machine work	do		38	654
Churches, use of window-glass in early	Glass Manufacture		50	1094
Church, influence of the, on glass-making	do		65	1103
Cigar-boxes	Statistics of Manufactures	III	21	31
Cigarettes and cigars	do	III	79	89
Cigar-molds	do	III	28	38
Cigars and cigarettes	do	III	79	89
Cincinnati, Ohio, manufactures of	do	VI	393-395	403-405
Cities, fifty principal, persons engaged in manufacturing, mechanical, and mining industries in.	Introductory Remarks	Table.	xxxiii	*33
manufactures of one hundred principal, by specified industries	Statistics of Manufactures	VI	381-445	391-455
by totals; also showing rank in population and value of manufactured product.	do	VI	379, 380	389, 390
rank of seven leading, in certain industries	Introductory Remarks	Table.	xxvi	*26
relation of net to gross product in one hundred	do	Table.	xxiv, xxv	*24, *25
specified, rank of six leading industries in the	do	Table.	xxvii	*27
Classification of glass	Glass Manufacture		1, 19-23	1039, 1057-1061
of <i>Gobeleterie</i>	do		21	1059
Clay-grinding mills in glass factories	do		4	1042
Cleaning and polishing rice	Statistics of Manufactures	III	68	78
Cleansing and dyeing	do	III	34, 35	44, 45
and polishing preparations	do	III	28	38
Clerks employed in cotton factories	Cotton Manufacture	Table.	15	955
in woolen factories	Wool Manufacture	Table.	{ 5, 18-15, 17, 19	967, 975-977, 979, 981
Cleveland, Ohio, manufactures of	Statistics of Manufactures	VI	395, 396	405, 406
Clinton, De Witt, on glass-making in New York	Glass Manufacture		94	1132
Cloaking, woolen	Wool Manufacture	Table.	9	971
worsted	do	Table.	13	975
Clock and watch materials	Statistics of Manufactures	III	83	93
repairing	do	III	83	93
cases and materials	do	III	28	38
Clocks	do	III	28	38
Cloth and paper, sand and emery	do	III	79	80
Clothes-wringers and washing-machines	do	III	82, 83	92, 93

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Cloth-finishing.....	Statistics of Manufactures.....	III	28	38
Clothing, horse.....	do.....	III	28	38
industry, extent and geographical distribution of the.....	Wool Manufacture.....	Table.	9	971
men's.....	Introductory Remarks.....		xx	*20
men's, power used in manufacture of.....	Statistics of Manufactures.....	III	28	38
women's.....	Power used in Manufactures.....	Table.	12	504
Cloths.....	Statistics of Manufactures.....	III	29	39
Coal first used as a fuel in United States at Pittsburgh ( <i>see also</i> Anthracite coal; Bituminous coal; Materials).	Wool Manufacture.....	Table.	9, 12, 14, 15	{ 971, 974, 976, 977
mineral, first use of.....	Glass Manufacture.....		83	1121
substitution of, for wood in glass-melting.....	do.....		36	1074
tar.....	do.....		57	1095
used in arms factories.....	Statistics of Manufactures.....	III	29	39
used in barrel-rolling.....	Interchangeable Mechanism.....		1	617
used in glass manufacture.....	do.....		8	624
used in woolen manufactures.....	Glass Manufacture.....	Table.	18	1056
use of, in glass-making in 1810.....	Wool Manufacture.....	Table.	8, 13-15, 17, 19	{ 970, 975-977, 978, 981
Coatings, worsted.....	Glass Manufacture.....		87	1125
Coffee and spices, roasted and ground.....	Wool Manufacture.....	Table.	11, 12	973, 974
Coffins, burial cases, and undertakers' goods.....	Statistics of Manufactures.....	III	29	39
Coke used in glass manufacture.....	do.....	III	29, 30	39, 40
Colbert, and glass-making in France.....	Glass Manufacture.....	Table.	18	1056
Cold pressing.....	do.....		66	1104
rolled iron.....	Interchangeable Mechanism.....		21	637
stoking.....	do.....		50	666
Cole, Henry, chief special agent, collection of manuf'g statistics of Cincinnati, Ohio.....	Glass Manufacture.....		44	1082
Collars and cuffs, paper.....	Statistics of Manufactures.....	VI	393	403
<b>Colorado:</b>	do.....	III	30	40
First iron works in, established at Pueblo in 1878.....	Iron and Steel.....		111	847
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	95, 96	105, 106
by totals of counties, in.....	do.....	IV	95	105
Power used in manufactures in.....	Power used in Manufactures.....	Table.	19	511
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	169, 200	209, 210
Colored glass, definition and classification of.....	Glass Manufacture.....		20	1058
glass pots, size of.....	do.....		41	1679
Coloring matter of ancient glass.....	do.....		59	1087
Color of carbonate glass.....	do.....		31	1069
of glass, effect of use of manganese on the.....	do.....		25	1063
of sand not always indicative of quality.....	do.....		25	1063
of slag glass.....	do.....		55	1093
of sulphate glass.....	do.....		31	1069
Columbus, Ohio, manufactures of.....	Statistics of Manufactures.....	VI	396, 397	406, 407
Combing-machines in woolen manufacture.....	Wool Manufacture.....	Table.	4, 12, 16, 18	966, 974, 978, 980
Combs.....	Statistics of Manufactures.....	III	30	40
Commercial classification of glass, difficulty of.....	Glass Manufacture.....		20	1058
Common flint, definition of.....	do.....		21	1059
Common-law doctrine in England and the United States as to liability of employer for accidents or injuries to employes through the negligence of a co-employe.....	do.....		59	591
Competition between hand- and power-loom weavers, and its effect on the cutting of wages.....	do.....	Tables.	35, 36	567, 568
with England in cotton manufacture.....	Cotton Manufacture.....		12	952
Composition, classification, and properties of glass.....	Glass Manufacture.....		19-23	1057-1061
of Egyptian glass.....	do.....		60	1093
of glass difficult to obtain.....	do.....		41	1079
Conductivity of glass.....	do.....		21	1059
Confectionery.....	Statistics of Manufactures.....	III	30, 31	40, 41
Congress, and the silk culture.....	Silk Manufacture.....		15	919
publications of, relating to silk culture.....	do.....		15	919
<b>Connecticut:</b>				
Assembly, premiums offered by the, in 1788, for the encouragement of silk culture.....	do.....		18	917
Commencement of the manufacture of spun silk at South Manchester, in.....	do.....		18	922
History of glass-making in.....	Glass Manufacture.....		94, 95	1132, 1133
Iron first made in, at New Haven in 1658.....	Iron and Steel.....		60	796
Machinery in use in the silk factories at Mansfield, in.....	Silk Manufacture.....		17	921
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	96-99	108-109
by totals of counties, in.....	do.....	IV	96	106
Monopoly of glass-making in, granted.....	Glass Manufacture.....		95	1133
Power used in manufactures in.....	Power used in Manufactures.....	Table.	20	512
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	200-205	210-215

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>Connecticut—continued.</b>				
Silk culture in .....	Silk Manufacture.....		13	917
Statistics of glass-making in, at various dates .....	Glass Manufacture .....		95	1193
of glass works, by counties, in .....	do .....	Table.	15	1053
Connellsville coke: Its manufacture commenced in the summer of 1841; first regu- larly used in a blast-furnace at Pittsburgh in 1860.	Iron and Steel .....		132	808
Consolidation type of locomotive .....	Interchangeable Mechanism .....		45	601
Constituents of glass .....	Glass Manufacture .....	Tables.	41-43	1079-1081
of window-glass.....	do .....	Table.	42	1080
Constitutionality of loans of money to encourage manufactures discussed in Congress.	do .....		95	1133
Consumption of cotton per head of population .....	Cotton Manufacture.....		1	941
Cooling in glass houses of Austria-Hungary .....	Glass Manufacture .....	Table.	44	1082
molds by air-blast.....	do .....		40	1087
time of .....	do .....		44	1082
use of blasts in.....	do .....		44	1082
Cooperage .....	Statistics of Manufactures.....	III	31	41
Cooper's mixer.....	Glass Manufacture .....		43	1081
Copper and brass, rolled.....	Statistics of Manufactures.....	III	22	32
Coppersmithing.....	do .....	III	31	41
Copperware, sheet-iron ware, and tinware .....	do .....	III	78	88
Cordage and twine.....	do .....	III	32	42
Cordials and sirups .....	do .....	III	32	42
Cork cutting.....	do .....	III	32	42
Corsets .....	do .....	III	32	42
Cosmetics and perfumery .....	do .....	III	04	74
Cost of labor in various cotton manufactures .....	Cotton Manufacture .....		13	953
of making glass, items of .....	Glass Manufacture .....		x	1038
of Siemens' tempered glass .....	do .....		54	1092
Cottonades.....	Wool Manufacture .....	Table.	10	972
Cotton, amount consumed per capita .....	Factory System.....		8	540
compressing .....	Statistics of Manufactures.....	III	32	42
consumed in the United States .....	Cotton Manufacture .....	Table.	10	956
factories and their hours of labor in 1830-'35.....	Factory System.....		39	571
factory operatives of Great Britain and their wages during the years 1880-'82.	do .....	Table.	44	576
of the west of Scotland and their wages in the years 1851, 1856, and 1858.	do .....	Table.	43	575
gin and its inventor, Eli Whitney .....	do .....		7	539
goods, power used in manufacture of .....	Power used in Manufactures .....	Table.	12, 13	504, 505
industry as illustrative of the wage system .....	Factory System.....		35	507
extent and geographical distribution of the .....	Introductory Remarks.....		xix, xx	*19, *20
of the United States, 1831-1880: Capital invested, wages paid, and cot- ton consumed, by states.	Factory System.....	Table.	12, 13	544, 545
of the United States, 1831-1880: Number of establishments, spindles, looms, and employes, by states.	do .....	Table.	10, 11	542, 548
of the United States, 1831-1880: Value of materials, quality of goods manufactured, and value of products, by states.	do .....	Table.	14, 15	546, 547
manufacture in England at the close of the Revolution.....	do .....		4	536
report on, by Edward Atkinson.....	Cotton Manufacture .....		i-iii, 1-17	937-957
manufactures in Great Britain and the United States in the years 1839-1878 and 1831-1880, respectively.	Factory System.....	Tables.	9	541
operatives, their supply and condition in the first factories in England.....	do .....		55	587
seed oil and cake .....	Statistics of Manufactures.....	III	61	71
ties.....	do .....	III	32	42
used on cards .....	Wool Manufacture .....	Table.	2, 7, 12, 14, 15, 18	964, 969, 974, 976, 977, 980
warp.....	do .....	Table.	7, 13, 17, 18	969, 975, 979, 980
Counter-boring treadle bearings.....	Interchangeable Mechanism .....		40	650
Counties, aggregate production of iron and steel by.....	Iron and Steel .....	VII	26-32	762-768
making glass, relative production of .....	Glass Manufacture .....	Table.	11	1040
manufactures in each state and territory, by totals of .....	Statistics of Manufactures.....	IV	88-192	98-202
selected statistics of manufactures in each state and territory, by .....	do .....	V	198-378	203-338
Covered pots, time of melting in .....	Glass Manufacture .....		44	1082
use of, in glass-making .....	do .....		57	1095
Coverlets .....	Wool Manufacture .....	Table.	9, 19	971, 981
Covington, Ky., manufactures of .....	Statistics of Manufactures.....	VI	397	407
Craig & O'Hara, glass manufacturers in Pittsburgh.....	Glass Manufacture .....		83	1121
glass works of.....	do .....		82-84	1120-1122
their relation to manufacture of glass for public buildings at Wash- ington, D. C.	do .....		84	1122
Creager, Noble H., chief special agent, collection of manu'g statistics of Baltimore, Md.	Statistics of Manufactures.....	VI	383	393
Criminal lists in Manchester, England.....	Factory System.....	Table.	31	563

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Cristaux same as lead flint.....	Glass Manufacture.....		21	1059
Crompton, Samuel, and the mule spinning-machine.....	Factory System.....		3	535
Crown-glass, definition of.....	Glass Manufacture.....		20	1058
making in New York in 1846.....	do.....		94	1132
manufacture of, at Boston.....	do.....		39	1127
method of manufacture of.....	do.....		20	1058
time of melting, in English houses.....	do.....		44	1082
optical glass.....	do.....		21	1059
Crucible and miscellaneous steel works of the United States.....	Iron and Steel.....	IV	23	759
steel, production of ( <i>see also</i> Steel).....	do.....		8	744
Crucibles.....	Statistics of Manufactures.....	III	33	40
Crushing strength of glass.....	Glass Manufacture.....		21, 22	1059, 1060
Crystal glass, definition of.....	do.....		21	1059
Cuffs and collars, paper.....	Statistics of Manufactures.....	III	30	40
Cullet, proportion of.....	Glass Manufacture.....		43	1081
Cupping cartridge-shells.....	Interchangeable Mechanism.....		30	640
Currency, discount upon, in 1870; comparisons of 1870 with 1860 and 1860 with 1880.....	Introductory Remarks.....	Tables.	x, xi	*10, *11
Carried leather.....	Statistics of Manufactures.....	VII	463	463
Cut and wrought-iron nails and spikes.....	do.....	III	48	58
Cutlery, Hardware, and Edge-tools, Report on Manufacture of, by Charles H. Fitch.....	Hardware, Cutlery, and Edge-tools.....		i, ii, 1-21	705-727
making, table and other.....	do.....		13	719
Cuts on sewing-machine parts.....	Interchangeable Mechanism.....		37	659
Cut, stained, and ornamented glass.....	Statistics of Manufactures.....	III	42	52
stock, boot and shoe.....	do.....	III	20	30
Cutting flint-glass.....	Glass Manufacture.....		51	1080
off and centering axles.....	Interchangeable Mechanism.....		56	672
watch pillars.....	do.....		63	679
Cuvette, use of, in plate-glass works.....	Glass Manufacture.....		45	1083
Cylinder-boring machines.....	Interchangeable Mechanism.....		55	671
glass, definition of.....	Glass Manufacture.....		20	1058
locomotive.....	Interchangeable Mechanism.....		45	661
<b>D.</b>				
Dacca muslin.....	Cotton Manufacture.....		3	943
<b>Dakota:</b>				
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	100	110
by totals of counties, in.....	do.....	IV	99	109
Power used in manufactures in.....	Power used in Manufactures.....	Table.	20	512
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	205	215
Dampness, effect of, on soda window-glass.....	Glass Manufacture.....		30	1068
Davenport, Iowa, manufactures of.....	Statistics of Manufactures.....	VI	397	407
Dayton, Ohio, manufactures of.....	do.....	VI	398	408
Decanters, early manufacture of, in Pittsburgh.....	Glass Manufacture.....		86	1124
De Cosnola's discoveries of glass.....	do.....		61	1099
Decolorizer, manganese not a permanent.....	do.....		33	1071
use of manganese as a.....	do.....		24	1062
Definition of glass.....	do.....		19	1057
<b>Delaware:</b>				
History of iron manufacture in.....	Iron and Steel.....		88	824
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	100, 161	110, 111
by totals of counties, in.....	do.....	IV	100	110
Power used in manufactures in.....	Power used in Manufactures.....	Table.	20	512
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	206	216
Denmark, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
Denny & Beelen's glass house at Pittsburgh.....	Glass Manufacture.....		83, 84	1121, 1122
Dentistry, mechanical.....	Statistics of Manufactures.....	III	33	43
Dentists' materials.....	do.....	III	33	43
Denver, Colo., manufactures of.....	do.....	VI	398	408
Deslonde, E. A., chief special agent, collection of manuf'g statistics of New Orleans, La.....	do.....	VI	416	426
Des Moines, Iowa, manufactures of.....	do.....	VI	399	409
Detroit, Mich., manufactures of.....	do.....	VI	399, 400	409, 410
Devitrification in its relation to manipulation of glass.....	Glass Manufacture.....		22	1060
Dial-making.....	Interchangeable Mechanism.....		64	680
Die-forging. ( <i>See</i> Drop-forging.).....				
Die-sinking and engraving.....	Statistics of Manufactures.....	III	36	46
Dies, jumper.....	Interchangeable Mechanism.....		20	636
Direct-firing furnaces, number of.....	Glass Manufacture.....		4	1042
Directory of glass works.....	do.....		ix	1037
Dishrow, Wm. B., special agent, collection of manuf'g statistics of Bridgeport, Conn.....	Statistics of Manufactures.....	VI	387	397
Distilled liquors.....	do.....	III	52, 53	62, 63
extent and geographical distribution of the manufacture of.....	Introductory Remarks.....		xxi, xxii	*21, *22
Distribution, geographical, of manufacturing industries.....	do.....	Tables.	xii-xvi	*12-*16
of power in five sections of the United States.....	Power used in Manufactures.....	Tables.	7	499

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>District of Columbia :</b>				
Iron manufacturing enterprises in the .....	Iron and Steel .....		92	828
Manufactures, by specified industries, in the .....	Statistics of Manufactures .....	IV	101, 102	111, 112
Power used in manufactures in the .....	Power used in Manufactures .....	Table.	20	512
Selected statistics of manufactures in the .....	Statistics of Manufactures .....	V	206	216
Statistics of glass works in the .....	Glass Manufacture .....	Table.	15	1058
Division of labor at early glass works .....	do .....		34	1072
Deeskins .....	Wool Manufacture .....	Table.	9, 12, 14, 15	971, 974, 070, 077
Domestic and factory systems of industry contrasted .....	Factory System .....		17, 18	549, 550
silk, early difficulties encountered in the manufacture of, through defective reeling.	Silk Manufacture .....		14	918
Doors and shutters, iron .....	Statistics of Manufactures .....	III	47	57
safes, and vaults, fire-proof .....	do .....	III	69	79
sash, and blinds .....	do .....	III	70	80
power used in manufacture of .....	Power used in Manufactures .....	Table.	16, 17	508, 509
Docher, Ernest E., special agent, collection of manuf'g statistics of Augusta, Ga .....	Statistics of Manufactures .....	VI	383	393
Double glass, definition of .....	Glass Manufacture .....		20	1058
process, glass-making a .....	do .....		19	1057
Douglas, Elias J., chief special agent, collection of manuf'g statistics of Buffalo, N. Y .....	Statistics of Manufactures .....	VI	380	390
Downey, Stephen W., and his letter to the Superintendent of Census referring to a soda deposit near Laramie City, Wyoming territory.	Chemical Products and Salt .....		15	1005
Draft animals used in glass works .....	Glass Manufacture .....	Table.	5	1048
Drain and sewer pipe .....	Statistics of Manufactures .....	III	34	44
Drawing cartridge-shells .....	Interchangeable Mechanism .....		30	646
Drays in glass factories .....	Glass Manufacture .....	Table.	4, 5	1042, 1043
Dressed flax .....	Statistics of Manufactures .....	III	38	48
furs .....	do .....	III	41, 42	51, 52
skins, leather .....	do .....	III	51	61
Dress goods, woolen .....	Wool Manufacture .....	Table.	10	972
worsted .....	do .....	Table.	11, 12	973, 974
Drifting mortises in gun work .....	Interchangeable Mechanism .....		29	646
Drilling boiler-plate .....	do .....		51, 52	667, 668
castors .....	do .....		30	655
for ramrods .....	do .....		18	634
gun-barrels .....	do .....		6-8	622-624
hinges .....	Hardware, Cutlery, and Edge-tools .....		11	717
to jigs .....	Interchangeable Mechanism .....		27	643
truck-frames .....	do .....		58	674
watch-pivots .....	do .....		63	679
Drills, belted .....	do .....		57	673
Drinking glasses, Saxon .....	Glass Manufacture .....		63	1101
Drivers, locomotives with geared .....	Interchangeable Mechanism .....		44	660
Drop-forging gun parts .....	do .....		19	635
machines used in .....	do .....		20, 21	636, 637
sewing-machine hooks .....	do .....		37	653
shuttles .....	do .....		37	653
Druggets .....	Wool Manufacture .....	Table.	17	970
Drugs and chemicals .....	Statistics of Manufactures .....	III	34	44
Druids' beads .....	Glass Manufacture .....		64	1102
Drying of pots .....	do .....		41	1070
Dubuque, Iowa, manufactures of .....	Statistics of Manufactures .....	VI	400	410
Ductility of glass .....	Glass Manufacture .....		22	1060
Duties on imports of glass, early action of Congress in levying .....	do .....		95	1133
Dyeing and cleansing .....	Statistics of Manufactures .....	III	34, 35	44, 45
and finishing textiles .....	do .....	VII	451	461
spinning, and silk manufacturing in Boston by William Molineaux .....	Silk Manufacture .....		13	917
Dyestuffs and extracts .....	Statistics of Manufactures .....	III	35	45
Dynamite and its composition .....	Chemical Products and Salt .....		22	1012
Dyottville glass works .....	Glass Manufacture .....		81, 82	1110, 1120
<b>E.</b>				
Earnings, average daily, elements necessary to ascertain .....	do .....		6	1044
clear weekly, average, of spinners, dressers, and weavers in certain cotton factories in England: 1816-1832.	Factory System .....	Table.	40	572
Earthen and stone-ware .....	Statistics of Manufactures .....	III	76	86
Eastern states, cotton manufactures in .....	Cotton Manufacture .....	Table.	15, 16	955, 956
Ebenezer, Ga., silk culture at .....	Silk Manufacture .....		9	913
Edge-tools and cutlery .....	Statistics of Manufactures .....	III	33	43
Hardware, and Cutlery, by Charles H. Fitch .....	Hardware, Cutlery, and Edge-tools .....		i, ii, 1-21	705-727
Edging gun parts .....	Interchangeable Mechanism .....		26	642
trigger-guards .....	do .....		26	642
watch-bridges .....	do .....		63	679

INDEX TO VOLUME ON MANUFACTURES.

1165

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Education of factory children .....	Factory System.....		57, 58	589, 590
Efficiency of factories, conditions of.....	Hardware, Outlery, and Edge-tools.....		19	725
Egypt, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
glass-making in .....	Glass Manufacture.....		59, 60	1097, 1098
natron lakes of .....	do .....		30	1068
the early use of iron in .....	Iron and Steel .....		33-35	769-771
Egyptian furnaces, early .....	Glass Manufacture.....		34	1072
soda, where procured.....	do .....		30	1068
Eichbaum, P. W., glass-worker.....	do .....		81, 83	1119, 1121
Eighth Census, returns of industrial statistics at the.....	Introductory Remarks.....		viii	*8
Elastic and rubber goods.....	Statistics of Manufactures .....	III	68	78
frills .....	Wool Manufacture .....	Table.	13	975
Electrical apparatus and supplies.....	Statistics of Manufactures.....	III	35	45
Electric lights .....	do .....	III	35	45
Electroplating .....	do .....	III	35	45
Electrotyping and stereotyping .....	do .....	III	76	86
Elizabeth, N. J., manufactures of.....	do .....	VI	400, 401	419, 411
Ellison, Thomas, extract from annual report of .....	Cotton Manufacture.....		1, 2	941, 942
Elmira, N. Y., manufactures of.....	Statistics of Manufactures.....	VI	401	411
Emblems, regalia, and banners, society.....	do .....	III	68	78
Emery and sand paper and cloth.....	do .....	III	70	80
wheels .....	do .....	III	36	46
Employer, and the two classes of injuries caused by fellow-workmen for which he is held liable.....	Factory System.....		50	591
Employers, liability of, for injuries received by their workmen .....	do .....		58	590
Employers' liability act in England.....	do .....		59	591
Employees: 1850-1880 .....	Introductory Remarks.....	Table.	xi	*11
in cotton factories, conditions and habits of .....	Cotton Manufacture .....		9, 10	949, 950
number of .....	do .....	Table.	16	955
in glass factories, number of.....	Glass Manufacture .....	Table.	6	1044
in woolen factories .....	Wool Manufacture.....	Table.	2, 5, 13-15, 17, 19	984, 907, 975- 977, 979, 981
of manufacturing establishments, average number of: 1880, 1870, 1860, 1850.....	Statistics of Manufactures.....	I	5-8	15-18
Enamel, composition of .....	Glass Manufacture .....		21	1059
Enameled and patent leather .....	Statistics of Manufactures .....	III	52	62
goods .....	do .....	III	36	46
oilcloth .....	do .....	III	62	72
Enameling.....	do .....	III	30	46
End-shaking jewels.....	Interchangeable Mechanism.....		65	681
England, and her encouragement to colonists who engaged in the work of silk culture.....	Silk Manufacture.....		2	906
and the cotton manufacture at close of the Revolution .....	Factory System.....		4	530
and the employers' liability act.....	do .....		50	591
and the introduction of broad silk weaving in 1620 .....	Silk Manufacture.....		4	908
and the measures adopted for the cultivation of the mulberry tree under James I.....	do .....		2	906
competition with, in cotton manufacture.....	Cotton Manufacture .....		12	952
early window-glass works in .....	Glass Manufacture .....		56	1094
number of plate-glass factories in .....	do .....		70	1108
England's specialties in glass-making.....	do .....		69	1107
English and American factory operatives, their intellectual status contrasted.....	Factory System .....		84	536
art glass .....	Glass Manufacture .....		69	1107
bottle-glass, constituents of .....	do .....	Table.	43	1081
fire-clay used, amount of .....	do .....	Table.	18	1059
flint-glass.....	do .....		69	1107
flint, plate, and other glass, constituents of .....	do .....	Table.	42	1080
glass houses, sources of supply of sand for .....	do .....		27	1065
time of fining in .....	do .....		44	1082
melting in .....	do .....		44	1082
glass industry, decline of .....	do .....		72	1110
legislation in 1750 for stopping manufacturing in America .....	Silk Manufacture.....		12, 13	916, 917
sand, analysis of.....	Glass Manufacture .....		26, 27	1064, 1065
sources of supply of .....	do .....		26	1064
Engravers' materials.....	Statistics of Manufactures.....	III	36	46
Engraving and die-sinking.....	do .....	III	36	46
flint-glass .....	Glass Manufacture .....		51	1089
steel and wood .....	Statistics of Manufactures.....	III	38	46
Envelopes.....	do .....	III	37	47
Equalizing-beams in locomotives.....	Interchangeable Mechanism.....		44	600
Erie, Pa., manufactures of.....	Statistics of Manufactures.....	VI	401	411
Essential oil .....	do .....	III	61	71
Essex-street glass works.....	Glass Manufacture .....		89	1127

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Establishments in chemical manufacture, number of .....	Chemical Products and Salt .....		1	991
in chemical manufacture, total value of production of, in twelve of the leading states. ....	do .....	Table.	2	992
in cotton manufacture, number of .....	Cotton Manufacture .....	Table.	15	955
in iron and steel industries, summary of .....	Iron and Steel .....		1	737
in manufacture of nitro-glycerine, number of .....	Chemical Products and Salt .....	Table.	22	1012
in which glass was made in the census year .....	Glass Manufacture .....	Table.	3	1041
in woolen manufacture, number of .....	Wool Manufacture .....	Table.	2, 4, 12, 14- 16, 18	864, 966, 974, 976-978, 980
producing sulphuric acid .....	Chemical Products and Salt .....	Table.		
total number of manufacturing: 1880, 1870, 1860, 1850 .....	Statistics of Manufactures .....	I	5-8	16-18
Etching flint-glass .....	Glass Manufacture .....		51	1089
invention of .....	do .....		67	1105
Etruria: The Etrurians early engaged in the manufacture of iron .....	Iron and Steel .....		36, 37	772, 773
Etruscan glass .....	Glass Manufacture .....		61	1099
Europe, chief glass-making countries of .....	do .....		69	1107
cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
early use of iron in .....	Iron and Steel .....		35-40	771-776
number of plate-glass factories in .....	Glass Manufacture .....		70	1108
present condition of glass-making in .....	do .....	Tables.	69-77	1107-1115
production of plate-glass in .....	do .....	Table.	70, 71	1108, 1109
Evansville, Ind., manufactures of .....	Statistics of Manufactures .....	VI	402	412
Expert special agents, appointment of the following persons as, for the industries named:				
Atkinson, Edward, cotton goods .....	Introductory Remarks .....		ix	*0
Bond, William, manufactures of wool .....	do .....		ix	*0
Hall, Henry, ship-building .....	do .....		ix	*0
Peckham, S. F., petroleum .....	do .....		ix	*0
Rowland, William L., chemical manufactures .....	do .....		ix	*0
Swank, James M., iron and steel .....	do .....		ix	*0
Trowbridge, Prof. William P., power and machinery used in manufacture .....	do .....		ix	*0
Weeks, Joseph D., coke, glass, and wages .....	do .....		ix	*0
Wood, P. T., mixed textiles .....	do .....		ix	*0
Wyckoff, William C., silk manufacture .....	do .....		ix	*0
Explosives and fireworks .....	Statistics of Manufactures .....	III	37	47
high .....	do .....	III	46	50
Exportation of Belgian glass .....	Glass Manufacture .....		69, 73, 74	1107, 1111, 1112
of British glass .....	do .....	Tables.	72	1110
Export from United States, of glass .....	do .....		77	1115
of agricultural implements .....	Interchangeable Mechanism .....		85	701
Extracts and dyestuffs .....	Statistics of Manufactures .....	III	35	45
flavoring .....	do .....	III	38	48
Eyeglasses and spectacles .....	do .....	III	78	83
<b>F.</b>				
Face-milling .....	Interchangeable Mechanism .....		24	640
Factory and domestic systems of industry contrasted .....	Factory System .....		17, 18	549, 550
and workshop act of 1878, analysis of, so far as it applies to textile factories in Great Britain. ....	do .....		60-62	592-594
children and their education .....	do .....		57, 58	580, 590
definition of .....	do .....		1	593
efficiency, conditions of .....	Hardware, Cutlery, and Edge-tools .....		19	725
employments, discussion as to the effect of, upon health .....	Factory System .....		26	552
laws and regulations in Austria-Hungary, analysis of .....	do .....		62-64	594-596
in France, analysis of .....	do .....		64	596
in Germany, analysis of .....	do .....		64, 65	599, 597
of the states of the American Union, showing to what extent the principles of English factory legislation have been adopted. ....	do .....		65-67	597-599
legislation and its effect .....	do .....		55-58	587-590
operatives, homes of .....	do .....		68-72	600-604
their appearance and dress .....	do .....		70	602
population of the United States, their thrift and prosperity .....	do .....		31	568
system, achievements of .....	do .....		16	548
and its effect upon prices and production in America .....	do .....	Table.	52	584
its future .....	do .....		72, 73	604, 605
its growth as illustrated by the cotton manufacture .....	do .....		8	549
its influence on law, and the amelioration of the condition of the industrial classes. ....	do .....		58	590
its influence upon wages, prices, and production .....	do .....		35	567
its positive results .....	do .....		35	567
the effect of the discoveries of James Brindley upon the develop- ment of. ....	do .....		4	586
apparent evils of .....	do .....		17	549

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Factory system, discussion of its effect on intemperance, unthrift, and poverty .....	Factory System.....		80	562
discussion of its effect upon intellectual degeneracy .....	do .....		34	596
discussion of its effect upon prostitution and the swelling of the criminal lists.	do .....	Tables.	81-83	563-565
evils of .....	do .....		20	552
free and cheap distribution of coal and iron the chief element in the development of the.	do .....		4	536
general application of the .....	do .....		10	548
in America and the rates of wages .....	do .....	Tables.	44-51	578-583
of the United States, by Carroll D. Wright .....	do .....		i-v, 1-78	527-010
origin of the .....	do .....		1	523
Fahdt, Julius, quoted on use of alkaline rocks in Germany .....	Glass Manufacture .....		28	1066
Failure of early attempts to establish glass manufacture, causes of .....	do .....		81	1119
Fall River, Mass., manufactures of .....	Statistics of Manufactures .....	VI	402	412
Falls of the Schuylkill, glass works at the .....	Glass Manufacture .....		81	1119
Fancy and paper boxes .....	Statistics of Manufactures .....	III	21	31
articles .....	do .....	III	37	47
Farnum, Samuel J., special agent, collection of manuf'g statistics of Poughkeepsie, N. Y.	do .....	VI	427	437
Faults in glass .....	Glass Manufacture .....		44, 45	1082, 1083
Feathers and flowers, artificial .....	Statistics of Manufactures .....	III	16	25
Felt cloth and felted goods .....	Wool Manufacture .....	Table.	14, 15	978, 977
goods, power used in manufacture of .....	Power used in Manufactures .....	Table.	13	595
Felted cloth .....	Wool Manufacture .....	Table.	9	971
Female and male employes, proportion of, in certain industries .....	Introductory Remarks .....	Table.	xxxiv	*34
Fencing, manufacture of barbed-wire .....	Hardware, Cutlery, and Edge-tools .....		10	716
Fernald, G. W., chief special agent, collection of manuf'g statistics of Syracuse, N. Y.	Statistics of Manufactures .....	VI	439	449
Fertilizers .....	do .....	III	37	47
Fifth Census, no industrial statistics received at the .....	Introductory Remarks .....		vii	*7
Files .....	Statistics of Manufactures .....	III	38	48
manufacture of .....	Hardware, Cutlery, and Edge-tools .....		18	724
modified usage of .....	do .....		18	724
Filing to jigs .....	Interchangeable Mechanism .....		8	619
Fining in glass manufacture .....	Glass Manufacture .....		43, 44	1081, 1082
Finishing and dyeing textiles .....	Statistics of Manufactures .....	VII	451	461
Fire-arms .....	do .....	III	38	48
Fire-clay used in glass manufacture .....	Glass Manufacture .....	Table.	18	1056
Fire-extinguishers, chemical .....	Statistics of Manufactures .....	III	38	48
Fire polishing .....	Glass Manufacture .....		49	1087
Fire-proof vaults, safes, and doors .....	Statistics of Manufactures .....	III	69	79
Fireworks and explosives .....	do .....	III	37	47
Fitch, Charles H., his Report on Manufactures of Interchangeable Mechanism .....	Interchangeable Mechanism .....		i-vi, 1-88	611-704
Fitzgerald, Thos. F., special agent, collection of manuf'g statistics of Trenton, N. J.	Statistics of Manufactures .....	VI	441	451
Flags and banners .....	do .....	III	38	48
Flannels .....	Wool Manufacture .....	Table.	9	971
Flashed glass, definition of .....	Glass Manufacture .....		20	1058
Flattening ovens in window-glass factories, number of .....	do .....		4	1042
window-glass, description of process of .....	do .....		50	1088
Flavoring extracts .....	Statistics of Manufactures .....	III	38	48
Flax, dressed .....	do .....	III	38	48
hemp and jute bagging .....	do .....	III	16	26
Flint and bottle glass manufacture in Europe .....	Glass Manufacture .....		72	1110
definition of .....	do .....		21	1059
early use of, in glass-making .....	do .....		26	1064
still used in Germany in glass manufacture .....	do .....		27	1066
use of, in the manufacture of glass .....	do .....		24	1062
Flint-glass, analyses of .....	do .....	Table.	28	1061
annealing, cutting, and engraving .....	do .....		51	1089
constituents of .....	do .....	Tables.	42	1080
definition of .....	do .....		20	1058
first attempt at the manufacture of, west of the Allegheny mountains .....	do .....		85	1123
houses, time of melting in .....	do .....		44	1082
making, early, in Massachusetts, account of .....	do .....		89, 90	1127, 1128
manufacture of, in Philadelphia, Pa. ....	do .....		82	1120
permanent establishment of the manufacture of, at Pittsburgh .....	do .....		86	1124
pots, size of .....	do .....		41	1079
tools used in the manufacture of .....	do .....		51	1089
Floating-out rifling .....	Interchangeable Mechanism .....		10	626
Floor oilcloth .....	Statistics of Manufactures .....	III	62	72
<b>Florida:</b>				
Manufactures, by specified industries, in .....	do .....	IV	103	113
by totals of counties, in .....	do .....	IV	103	113
Power used in manufactures in .....	Power used in Manufactures .....	Table.	28	512
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	206, 207	216, 217

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Flour- and grist-mill industry, extent and geographical distribution of the.....	Introductory Remarks.....		xviii	*18
Flouring- and grist-mill products.....	Statistics of Manufactures.....	VII	451	401
power used in manufacture of.....	Power used in Manufactures.....	Table.	13	505
Flowers and feathers, artificial.....	Statistics of Manufactures.....	III	15	25
glass, manufacture of, in Austria-Hungary.....	Glass Manufacture.....		75	1113
Fly-shuttle and its invention, 1738.....	Factory System.....		2	534
Foil and leaf, gold and silver.....	Statistics of Manufactures.....	III	43	53
Food preparations.....	do.....	III	39	49
Foreign and native population in manufacturing industry.....	Introductory Remarks.....	Tables.	xxxvi-xxxviii	*30-38
Forges and bloomaries of the United States.....	Iron and Steel.....	V	24	760
Forging gun- and pistol-barrels.....	Interchangeable Mechanism.....		8	024
locomotive frames.....	do.....		50	080
Forgings, iron.....	Statistics of Manufactures.....	III	47, 48	57, 58
Fork-making.....	Interchangeable Mechanism.....		83	090
Fort Wayne, Ind., manufactures of.....	Statistics of Manufactures.....	VI	403	413
Foundery and machine-shop industry, extent and geographical distribution of the.....	Introductory Remarks.....		xix	*10
products.....	Statistics of Manufactures.....	III	39	49
power used in manufacture of.....	Power used in Manufactures.....	Table.	13, 14	505, 506
supplies.....	Statistics of Manufactures.....	III	39	49
work, improvements in hardware.....	Hardware, Cutlery, and Edge-tools.....		4	710
in plow manufacture.....	Interchangeable Mechanism.....		83	090
in sewing-machine manufacture.....	do.....		33	040
Founding, type.....	Statistics of Manufactures.....	III	80	90
Fourth Census, industries returned at the, for state of New York.....	Introductory Remarks.....		v, vi	*5, *6
information regarding statistics of manufactures received at.....	do.....		v	*5
Fox, Joseph B., special agent, collection of manufacturing statistics of Camden, N. J.....	Statistics of Manufactures.....	VI	390	400
Frames, looking-glass and picture.....	do.....	III	55	65
France, analysis of factory laws in.....	Factory System.....		64	506
Colbert, and glass-making in.....	Glass Manufacture.....		66	1104
cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
glass of.....	Glass Manufacture.....		63	1101
history of iron manufacture in.....	Iron and Steel.....		38, 39	774, 775
of the silk industry in.....	Silk Manufacture.....		1	305
manufacture of glass in.....	Glass Manufacture.....	Table.	66, 70, 73	1104, 1108, 1111
quartz still used in the manufacture of glass in.....	do.....		27	1065
specialties in glass-making in.....	do.....		69	1107
statistics of the iron and steel industries in, in 1880.....	Iron and Steel.....	Table.	153	839
use of window-glass in.....	Glass Manufacture.....		56	1004
Franklin, Dr. Benjamin, efforts of, to introduce silk culture in Pennsylvania.....	Silk Manufacture.....		12	016
Freight on baled cotton (Lowell and Lancashire).....	Cotton Manufacture.....		12	952
French glass manufacture.....	Glass Manufacture.....	Tables.	27, 42-44, 63, 69, 73	1065, 1080- 1082, 1101, 1107, 1111
Frequency of payment in glass manufacture.....	do.....	Table.	8	1046
Fritting.....	do.....		43	1081
furnaces.....	do.....		34	1072
Frothingham, Jas. H., chief special agent, collection of manufacturing statistics of Brooklyn, N. Y.....	Statistics of Manufactures.....	VI	387	397
Fruit-jars, number made.....	Glass Manufacture.....		11	1049
trimmings.....	Statistics of Manufactures.....	III	39	40
Fruits and vegetables, canned and preserved.....	do.....	III	40	50
Fuel, artificial.....	do.....	III	40	50
coal first used as fuel in the United States at Pittsburgh.....	Glass Manufacture.....		33	1121
economy of, in Siemens' gas furnace.....	do.....		36	1074
used in early glass houses.....	do.....		36	1074
Germany.....	do.....		74	1112
glass-making, amount of.....	do.....		4	1042
Furnaces, blast, in the United States.....	Iron and Steel.....	I	10-13	746-749
description of early glass.....	Glass Manufacture.....		90	1128
glass, building in census year.....	do.....	Tables.	1, 3, 13, 14	1039, 1041, 1051, 1052
idle during census year.....	do.....	Tables.	1-3, 13, 14	1039-1041, 1051, 1052
in glass manufacture.....	do.....	Tables.	3, 34-41	1041, 1072-1079
Furnishing goods, house.....	Statistics of Manufactures.....	III	40	50
men's.....	do.....	III	40	50
Furniture.....	do.....	III	40, 41	50, 51
industry, extent and geographical distribution of the.....	Introductory Remarks.....		xxi	*21
Furs, dressed.....	Statistics of Manufactures.....	III	41, 42	51, 52
Fusion in glass manufacture.....	Glass Manufacture.....		43	1081

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>G.</b>				
Gaddes, Jos. B., special agent, collection of manufacturing statistics of Terre Haute, Ind.	Statistics of Manufactures.....	VI	440	450
Gage, Geo. W., special agent, collection of manuf'g statistics of Grand Rapids, Mich.	do .....	VI	403	413
Gaiters .....	Wool Manufacture .....	Table.	18	989
Gallatin's glass works .....	Glass Manufacture .....		82	1120
return on the manufacture of glass in the United States.....	do .....		87	1125
Galvanizing .....	Statistics of Manufactures.....	III	42	52
Galveston, Tex., manufactures of .....	do .....	VI	403	413
Games and toys .....	do .....	III	80	90
Gas and lamp fixtures .....	do .....	III	42	52
bubbles in glass .....	Glass Manufacture .....		44	1082
Gas-fitting and plumbing.....	Statistics of Manufactures.....	III	60	76
Gas furnaces in glass manufacture.....	Glass Manufacture.....		4, 30, 44, 70	1042, 1074, 1082, 1117
machines and meters.....	Statistics of Manufactures.....	III	42	52
Gauges, confusion of standard.....	Hardware, Cutlery, and Edge-tools .....		5	711
in locomotive work .....	Interchangeable Mechanism .....		47	603
receiver, in gun work .....	do .....		3	610
Gaul, early glass works in .....	Glass Manufacture .....		63	1101
Gear-cutting in clock work .....	Interchangeable Mechanism .....		60	685
in sewing-machine work .....	do .....		38	654
in watch work .....	do .....		63	679
Geographical distribution of products of iron and steel .....	Iron and Steel .....		5, 0	741, 742
of the manufacture of agricultural implements .....	Interchangeable Mechanism .....	Tables.	70-75	686-691
<b>Georgia:</b>				
Bounties offered in 1749 for proficiency in the art of silk reeling in.....	Silk Manufacture.....		9	913
Encouragement extended by the British Parliament to promote the growth of silk industry in, and South Carolina.....	do .....		11	915
History of the iron industry in .....	Iron and Steel .....		97, 98	833, 834
Importation of Italians in 1736 for the advancement of the silk culture in .....	Silk Manufacture.....		9	913
Introduction of the silk industry in .....	do .....		8	912
Manufactures, by specified industries, in .....	Statistics of Manufactures.....	IV	105, 106	115, 116
by totals of counties, in .....	do .....	IV	104, 105	114, 115
Power used in manufactures in .....	Power used in Manufactures .....	Table.	21	513
Scale of premiums offered for the encouragement of silk culture in, in 1751 .....	Silk Manufacture .....		11	915
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures.....	V	207-210	217-220
Silk production in .....	Silk Manufacture.....	Table.	10	914
German fire-clay used, amount of .....	Glass Manufacture .....	Table.	18	1056
flint, definition of .....	do .....		21	1059
glass, early specimens of .....	do .....		67	1105
houses, location of .....	do .....		74	1112
pots, size of .....	do .....		41	1070
glass-workers in the United States, early .....	do .....		91	1129
law as to women operatives .....	Factory System .....		23	555
pot-clay, analyses of .....	Glass Manufacture .....	Table.	40	1078
sand, sources of supply of .....	do .....		27	1065
silvered plate, importation of, into the United States .....	do .....		70	1108
Germany, analysis of factory laws of .....	Factory System.....		64, 65	590, 597
cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
flint still used in glass manufacture in .....	Glass Manufacture .....		27	1065
history of glass manufacture in .....	do .....		63	1101
of the iron industry in .....	Iron and Steel .....		39	775
influence of, on French glass-making .....	Glass Manufacture .....		66	1164
present manufacture of glass in .....	do .....		70, 74	1108, 1112
quartz still used in .....	do .....		27	1065
statistics of the iron and steel industries of, in 1879 and 1880.....	Iron and Steel .....	Table.	163	880
Gilding watch movements.....	Interchangeable Mechanism .....		65	681
Gill furnace, description of .....	Glass Manufacture .....		37	1075
furnaces, number of .....	do .....		4	1042
Gin, cotton (Eli Whitney's invention) .....	Cotton Manufacture .....		4	944
Ginneries classified by power.....	do .....		4, 5	944, 945
Glass, a fused mixture of two or more silicates .....	Glass Manufacture.....		19	1057
and metallurgical slags .....	do .....		59	1097
classification and definition of .....	do .....		1, 10, 20	1030, 1057, 1058
cut, stained, and ornamented .....	Statistics of Manufactures.....	III	42	52
in France .....	Glass Manufacture .....		63	1101
in the dark ages .....	do .....		69	1104
its composition, classification, and properties .....	do .....		10-23	1057-1061
Glass-bead manufacture in Venice .....	do .....		70	1108
Glass-blowing, early.....	do .....		57	1005
Glass-gall .....	do .....		30	1068
or sandiver.....	do .....		48	1081

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Glass-makers, special privileges given to .....	Glass Manufacture .....		63	1101
Glass-making at Bellaire, Ohio .....	do .....		70	1117
at Jamestown, Va. ....	do .....		77	1115
at Keene, N. H. ....	do .....		92	1130
at Martin's Ferry, Ohio .....	do .....		79	1117
at Newcastle-on-Tyne .....	do .....		64	1102
at Pembroke, N. H. ....	do .....		92	1130
at Wheeling, W. Va. ....	do .....		78	1116
history of some processes of .....	do .....		50-58	1094-1096
in Bridgeport, Ohio .....	do .....		70	1117
in California, history of .....	do .....		98	1136
in China .....	do .....		64	1102
in Connecticut, history of .....	do .....		94, 95	1132, 1133
in Egypt after the Christian era .....	do .....		59	1007
in Germany .....	do .....		63	1101
in Illinois, history of .....	do .....		98	1130
in India .....	do .....		64	1102
in Ireland .....	do .....		64	1102
in Kentucky, history of .....	do .....		98	1136
in Maryland, history of .....	do .....		95, 96	1133, 1134
in Massachusetts, history of .....	do .....		85-91	1120-1129
in Missouri, history of .....	do .....		97	1135
in New Hampshire, history of .....	do .....		91-93	1120-1131
in New Jersey, history of .....	do .....		96, 97	1134, 1135
in New York, history of .....	do .....		93, 94	1131, 1132
in Normandy .....	do .....		63	1101
in Ohio, history of .....	do .....		97	1135
in Pennsylvania, history of .....	do .....		79-88	1117-1126
in Persia .....	do .....		64	1102
in Rome after the Christian era .....	do .....		62	1100
in Scotland .....	do .....		64	1102
in Spain .....	do .....		63	1101
in Vermont, history of .....	do .....		97	1135
in Virginia, history of .....	do .....		77-79	1115-1117
in western Massachusetts, history of .....	do .....		90	1128
in West Virginia in 1840 .....	do .....		78	1116
materials in Egypt .....	do .....		60	1098
profit in, no attempt to show .....	do .....		ix	1037
Glass manufacture in France, present state of .....	do .....		73	1111
in Germany .....	do .....		67	1105
report on, by Jos. D. Weeks .....	do .....		1-x, 1-114	1029-1152
melting, substitution of coal for wood in .....	do .....		57	1095
pressing, application of compressed air to .....	do .....		49	1087
of steam to .....	do .....		49	1087
London Pottery Gazette on the invention of .....	do .....		58	1096
Pellatt on the invention of .....	do .....		58	1096
refining in Austria .....	do .....	Table.	44	1082
sand in New Jersey .....	do .....		97	1136
spinning in Austria .....	do .....		75	1118
Glassware, capital invested in .....	do .....		3	1041
consolidated statistics of production of, etc .....	do .....	Tables.	12	1050
factories, definition of .....	do .....		1	1089
French, taste displayed in the manufacture of .....	do .....		78	1111
number of pieces of, made not reported on .....	do .....		10	1048
relative productive rank of the states in .....	do .....	Table.	9	1047
value of product of .....	do .....	Tables.	9, 10	1047, 1048
works, number of furnaces in .....	do .....	Tables.	3	1041
number of pots in .....	do .....		3	1041
Glass-working, methods of .....	do .....		45-55	1083-1093
Glory-holes in glass factories, number of .....	do .....		4	1042
Gloves .....	Wool Manufacture .....	Table.	18	950
and mittens .....	Statistics of Manufactures .....	III	42	52
Glucose .....	do .....	III	43	53
Glue .....	do .....	III	43	53
Gobeleterie, classification of .....	Glass Manufacture .....		21	1059
Gold and silver leaf and foil .....	Statistics of Manufactures .....	III	43	53
reduced and refined (not from the ore) .....	do .....	III	43	53
pens .....	do .....	III	64	74
premium upon, in 1870, taken into account in comparisons of 1870 with 1860 and 1860 with 1880 .....	Introductory Remarks .....		x, xi	*10, *11
Gould, David B., chief special agent, collection of manuf'g statistics of Saint Louis, Mo. ....	Statistics of Manufactures .....	VI	482	442
Graham, Jas. R., special agent, collection of manufacturing statistics of Davenport, Iowa. ....	do .....	VI	397	407

INDEX TO VOLUME ON MANUFACTURES.

1171

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Graham, Jas. S., chief special agent, collection of manuf'g statistics of Rochester, N. Y.	Statistics of Manufactures.....	VI	430	440
Grand Rapids, Mich., manufactures of.....	do.....	VI	403, 404	413, 414
Grapes and beets, potash made from.....	Glass Manufacture.....		32	1070
Graphite.....	Statistics of Manufactures.....	III	43	53
Gray, B. Frank, special agent, collection of manufacturing statistics of Savannah, Ga..	do.....	VI	437	447
Grease and tallow.....	do.....	III	43	53
Great Britain, analysis of the factory and workshop act of 1878 so far as it applies to textile factories in.	Factory System.....		00-62	592-594
cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
efforts of, to prevent the development of the iron and steel and other manufacturing industries of her American colonies during the eighteenth century. Comparison of the present rates of wages in the iron and steel industries of the United States and Great Britain; also of the cost of transportation of the raw materials and finished products.	Iron and Steel.....		137-152	873-888
history of the iron manufacture in.....	do.....		40-43	770-784
statistics of the manufacture of glass in.....	Glass Manufacture.....	Table.	72	1110
window-glass used in, in the Roman period.....	do.....		56	1094
Greece, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
history of the iron industry in.....	Iron and Steel.....		35, 36	771, 772
Greek glass.....	Glass Manufacture.....		61	1080
earliest reference to.....	do.....		61	1090
Green and black bottles, number of.....	do.....		11	1040
bottle-glass, composition of.....	do.....	Table.	19	1057
and definition of.....	do.....		21	1959
consolidated statistics of production of, etc.....	do.....	Table.	12	1050
Green-glass factories, definition of.....	do.....		1	1030
houses, time of melting in.....	do.....		44	1082
production of.....	do.....		11	1049
relative productive rank of the states in.....	do.....	Table.	9	1047
works.....	do.....	Tables.	3	1041
Grinding and engraving machines in glass factories, number of.....	do.....	Table.	4, 5	1042, 1043
axes and cutlery.....	Hardware, Cutlery, and Edge-tools.....		15	721
gun-barrels.....	Interchangeable Mechanism.....		9	625
plate-glass.....	Glass Manufacture.....		46	1084
sand used.....	do.....	Table.	18	1050
surface and round, in sewing-machine work.....	Interchangeable Mechanism.....		39	655
Griststones.....	Statistics of Manufactures.....	III	44	54
Grist and flouring-mill products.....	do.....	VII	451	461
Grooving needles.....	Interchangeable Mechanism.....		41	657
Ground earths and kaolin.....	Statistics of Manufactures.....	III	50	60
glass, definition of.....	Glass Manufacture.....		21	1059
or refined salt.....	Chemical Products and Salt.....	Table.	25	1015
salt.....	Statistics of Manufactures.....	VII	457	467
Guinand's method of making optical glass.....	Glass Manufacture.....		46	1084
Gun- and lock-smithing.....	Statistics of Manufactures.....	III	54, 55	64, 65
Gun-barrels, manufacture of.....	Interchangeable Mechanism.....		0	622
Gunpowder.....	Statistics of Manufactures.....	III	44	54
Gun-stocks, manufacture of.....	Interchangeable Mechanism.....		13	620
<b>III.</b>				
Hair, of other animals than sheep, used in woolen manufacture.....	Wool Manufacture.....	Table.	2, 7, 12, 14, 16	934, 939, 974, 976, 978
Hair-spring making.....	Interchangeable Mechanism.....		00	652
Hair work.....	Statistics of Manufactures.....	III	44	54
Hammocks.....	do.....	III	44	54
Hand- and power-loom weavers, their competition and its effect on the cutting of wages.	Factory System.....		36	508
Handkerchiefs, manufacture of.....	Silk Manufacture.....		18	922
Hand-knit goods.....	Statistics of Manufactures.....	III	44	54
Handles, wooden.....	do.....	III	45	55
Hand-loom weavers and their wages.....	Factory System.....		44	576
Hand-mule spinning and the wages paid.....	do.....	Table.	41	673
Hands employed and wages paid, summary of.....	Iron and Steel.....		9	745
in all manufacturing establishments, average number of: 1880, 1870, 1864, 1850.	Statistics of Manufactures.....	I	5-8	15-18
in silk manufacture, average number of.....	Silk Manufacture.....		26	930
Hand-stamps.....	Statistics of Manufactures.....	III	44	54
Hanks, Rodney and Heratio, their silk-mill at Mansfield, Conn	Silk Manufacture.....		14	918
Hardenberg, James R., chief special agent, collection of manufacturing statistics of Oakland and Sacramento, Cal.	Statistics of Manufactures.....	VI	419, 431	429, 441
Hardened glass.....	Glass Manufacture.....		52	1090
definition of.....	do.....		21	1059
Hardness of glass, on what it depends.....	do.....		24	1082

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Hardware.....	Statistics of Manufactures.....	III	45	55
change in conditions of manufacture of.....	Hardware, Cutlery, and Edge-tools.....		8, 4	709, 710
classification of.....	do.....		1	707
Cutlery and Edge-tools, Report on Manufacture of, by Charles H. Fitch.....	do.....		i, ii, 1-21	705-727
saddlery.....	Statistics of Manufactures.....	III	45	55
Hargreaves and his machine.....	Factory System.....		3	535
Hargreaves, James, and the spinning-jenny.....	do.....		3	535
Harmon, Robert A., special agent, collection of manuf'g statistics of Lawrence, Mass.....	Statistics of Manufactures.....	VI	408	418
Harness and saddlery.....	do.....	III	69	79
Harrisburg, Pa., manufactures of.....	do.....	VI	404	414
Hartford, Conn., manufactures of.....	do.....	VI	404, 405	414, 415
Hartlib, Samuel, essays of, on the production of silk, 1652-1655.....	Silk Manufacture.....		4	908
Hat and cap materials.....	Statistics of Manufactures.....	III	45	55
Hats and caps, not including wool hats.....	do.....	III	45, 46	55, 56
Hats, straw.....	Wool Manufacture.....	Table.	15	977
wool.....	do.....	Table.	15	977
Hay and straw used in glass manufacture, amount of.....	Glass Manufacture.....	Table.	18	1056
Heading cartridge-shells.....	Interchangeable Mechanism.....		32	618
Heads, milling sewing-machine.....	do.....		28	654
Heating apparatus and steam-fittings.....	Statistics of Manufactures.....	III	75	85
in glass manufacture.....	Glass Manufacture.....		85, 43, 44	1078, 1081, 1082
Hemp, flax, and jute bagging.....	Statistics of Manufactures.....	III	16	26
Henry, James B., special agent, collection of manuf'g statistics of Wilmington, Del.....	do.....	VI	444	454
Herzogenrath (German) sand.....	Glass Manufacture.....		28	1066
Hewes, Robert, attempts of, to establish glass-making in New Hampshire.....	do.....		91, 92	1129, 1130
Hiett, John W., special agent, collection of manufacturing statistics of Toledo, Ohio.....	Statistics of Manufactures.....	VI	441	451
Higginbottom, Allen, special agent, collection of manuf'g statistics of Holyoke, Mass.....	do.....	VI	405	415
High explosives.....	do.....	III	40	56
Hill, Charles E., chief special agent, collection of manuf'g statistics of New York, N. Y.....	do.....	VI	417	427
Hill, William A., special agent, collection of manufacturing statistics of Memphis, Tenn.....	do.....	VI	411	421
Kobart, M. M., chief special agent, collection of manuf'g statistics of Cleveland, Ohio.....	do.....	VI	395	405
Hoboken, N. J., manufactures of.....	do.....	VI	405	415
Hohenbocka (German) sand.....	Glass Manufacture.....		28	1066
Hohlgias, definition of.....	do.....		21	1059
Holland, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942
history of glass-making in.....	Glass Manufacture.....		70	1108
present condition of glass-making in.....	do.....		77	1115
Hollerith, Herman, his Report on Power used in Manufactures.....	Power used in Manufactures.....		i-v, 1-23	487-523
Hollow ware, the term, applied to bottle-glass.....	Glass Manufacture.....		21	1059
Holton, Frederick, special agent, collection of manufacturing statistics of Lowell, Mass.....	Statistics of Manufactures.....	VI	409	419
Homes of factory operatives.....	Factory System.....		68-72	600-604
Hones and whetstones.....	Statistics of Manufactures.....	III	46	56
Hoods.....	Wool Manufacture.....	Table.	18	986
Hook-rifling.....	Interchangeable Mechanism.....		11	627
Hooks and eyes.....	Statistics of Manufactures.....	III	46	56
Horse clothing.....	do.....	III	28	38
Horse-power of steam-engines and water-wheels employed in manufactures. (See Power, etc.).....				
Horses in glass factories.....	Glass Manufacture.....	Table.	4, 5	1042, 1043
Horstmann, William H., manufacture of silk trimmings by, at Philadelphia, 1815.....	Silk Manufacture.....		14	918
Hose and belting.....	Statistics of Manufactures.....	III	17, 18	27, 28
half-hose.....	Wool Manufacture.....	Table.	18	989
racking.....	Statistics of Manufactures.....	III	67	77
Hosiery and knit goods.....	Wool Manufacture.....	Table.	18, 19	980, 981
power used in manufacture of.....	Power used in Manufactures.....	Table.	14	593
cotton.....	Wool Manufacture.....	Table.	18	989
Hours of labor in cotton factories in 1830-'95.....	Factory System.....		39	571
in iron industry.....	Iron and Steel.....		9	745
Housefurnishing goods.....	Statistics of Manufactures.....	III	46	56
Hubbard, Dana L., special agent, collection of manuf'g statistics of Wheeling, W. Va.....	do.....	VI	444	454
Humphrey, J. O., special agent, collection of manufacturing statistics of Springfield, Ill.....	do.....	VI	438	448
Hunt, James H., city marshal, Nashua, N. H., letter to Carroll D. Wright, special agent.....	Factory System.....		33	565
<b>I.</b>				
Ice, artificial.....	Statistics of Manufactures.....	III	46	56
<b>Idaho:</b>				
Manufactures, by specified industries, in.....	do.....	IV	107	117
by totals of counties, in.....	do.....	IV	107	117
Power used in manufactures in.....	Power used in Manufactures.....	Table.	21	513
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	211	221

INDEX TO VOLUME ON MANUFACTURES.

1173

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>Illinois :</b>				
History of glass-making in.....	Glass Manufacture .....		98	1186
of iron industry in.....	Iron and Steel .....		106	842
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	108-111	118-121
by total of counties, in.....	do .....	IV	107, 108	117, 118
Power used in manufactures in.....	Power used in Manufactures.....	Table.	21	513
Sand used in glass manufacture in.....	Glass Manufacture .....		20	1067
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	211-223	221-233
Statistics of glass works, by counties, in.....	Glass Manufacture .....	Table.	15	1053
Illuminating oil.....	Statistics of Manufactures.....	III	61	71
Importation of Belgian window-glass into the United States.....	Glass Manufacture .....		69	1107
of Gorman silvered plate.....	do .....		70	1108
Imports of glass, early action of Congress in levying duties on.....	do .....		95	1133
into the United States.....	do .....	Table.	99-101	1137-1139
of soda.....	do .....	Table.	81	1069
Improvements in the pressing process.....	do .....		47	1085
Impurities in sand used in glass manufacture.....	do .....		24	1062
Increase of manufacturing industries since 1850.....	Introductory Remarks.....	Tables.	ix-xi	*9-11
Increase of population, ratio of, compared with ratio of increase in certain manufacturing respects.....	do .....	Table.	xvi	*16
India, cotton consumption of.....	Cotton Manufacture .....	Table.	2	942
glass-making in.....	Glass Manufacture .....		64	1162
history of iron industry in.....	Iron and Steel.....		84, 85	770, 771
<b>Indiana :</b>				
Manufacture of plate-glass in.....	Glass Manufacture.....		99	1137
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	112-114	122-124
by totals of counties, in.....	do .....	IV	111, 112	121, 122
Power used in manufactures in.....	Power used in Manufactures.....	Table.	21	513
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	223-233	233-243
Statistics of glass works, by counties, in.....	Glass Manufacture.....	Table.	16	1054
The iron industry of.....	Iron and Steel.....		105, 106	841, 842
Indianapolis, Ind., manufactures of.....	Statistics of Manufactures.....	VI	405, 406	415, 416
Industrial statistics, discussion of methods of collecting.....	Introductory Remarks.....		viii, ix	*8, *9
Industries, general discussion of individual.....	do .....		xvii-xxii	*17-22
having a production of \$30,000 or over.....	do .....	Table.	xvii	*17
manufactures in each state and territory, by specified.....	Statistics of Manufactures .....	IV	88-102	98-202
of one hundred principal cities, by specified.....	do .....	VI	381-445	391-455
manufacturing, mechanical, and mining, persons engaged in, by states and territories.....	Introductory Remarks.....	Table.	xxx	*30
not specified, power used in.....	Power used in Manufactures.....	Table.	18	510
power used in certain, by states and territories, in 1880.....	do .....	Table.	11-18	503-510
in manufactures in each state and territory, by certain selected, in 1880.....	do .....	Table.	10-30	511-522
in manufactures in the United States, by, in 1880.....	do .....	Table.	10	502
principal, comparison of total amount of power and number of hands employed in, as returned at censuses of 1870 and 1880.....	do .....	Table.	4	498
increase in total amount of power used in.....	do .....	Table.	4	496
proportion of steam- and water-power used in, in 1870 and 1880.....	do .....	Table.	4	496
six leading, rank of certain cities in.....	Introductory Remarks.....	Table.	xxvii	*27
specified, for the United States.....	Statistics of Manufactures .....	II	9-14	19-24
Industry, principal, percentage of the total power used in each (1870-1880).....	Power used in Manufactures.....	Table.	4	496
Infant mortality among factory operatives in Germany.....	Factory System.....		23	555
Ingots, steel, production of.....	Iron and Steel .....	Table.	7	743
Injuries, two classes of, caused by fellow-workmen, for which employers held liable.....	Factory System.....		50	591
Ink.....	Statistics of Manufactures.....	III	46, 47	56, 57
Inside-connected engines.....	Interchangeable Mechanism.....		44	660
Insolubility of glass.....	Glass Manufacture .....		22	1060
Instrument and jewelry cases.....	Statistics of Manufactures.....	III	40	59
Instruments, musical, and materials (not specified).....	do .....	III	59, 60	69, 70
professional and scientific.....	do .....	III	47	57
used in determining the density of brines.....	Chemical Products and Salt.....		27	1017
Insulators, method of manufacture of, by pressing.....	Glass Manufacture .....		48	1086
Intellectual status of American and English factory operatives contrasted.....	Factory System.....		84	566
Interchangeability in gun work.....	Interchangeable Mechanism.....		2, 3, 12	618, 619, 628
in locomotive work.....	do .....		48	664
in plows.....	do .....		76	602
in watch work.....	do .....		60	676
Interchangeable breech-screws.....	do .....		12	628
Mechanism, Manufactures of, by Charles H. Fitch.....	do .....		i-vi, 1-88	611-704
system, development of the.....	do .....		2, 3	618, 619
Interchange attempted in France.....	do .....		2	618
Intervals of payment in glass manufacture.....	Glass Manufacture .....	Table.	8	1046
Introductory Remarks on the Statistics of Manufactures.....	Introductory Remarks.....		v-xlix	*5-49

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>Iowa:</b>				
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	110, 117	126, 127
by totals of counties, in .....	do .....	IV	114-116	124-126
Power used in manufactures in .....	Power used in Manufactures .....	Table.	22	514
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	234-240	244-250
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	16	1054
Ireland, glass-making in .....	do .....		04	1102
Iridescent glass, definition of .....	do .....		21	1059
Iron and Steel, Report on, by James M. Swank .....	Iron and Steel .....		i-vii, 1-104	729-900
industries, capital invested in .....	do .....		2	738
industry, extent and geographical distribution of the .....	Introductory Remarks .....		xviii, xix	*18, *19
manufacture in the United States, aggregate of, by counties .....	Iron and Steel .....	VII	20-22	762-768
by states .....	do .....	VI	25	701
power used in manufacture of .....	Power used in Manufactures .....	Table.	14, 15	506, 507
summary of statistics of, for 1880 .....	Iron and Steel .....	Tables.	1-0	737-745
bar, and blooms from ore, production of .....	do .....		8	744
bolts, nuts, washers, and rivets .....	Statistics of Manufactures .....	III	47	57
doors and shutters .....	do .....	III	47	57
forgings .....	do .....	III	47, 48	57, 58
in glass .....	Glass Manufacture .....		33	1071
in sand, effect of, on glass .....	do .....		24	1062
nails and spikes, cut and wrought .....	Statistics of Manufactures .....	III	48	58
pig, production of .....	Iron and Steel .....		7	743
pipe, wrought .....	Statistics of Manufactures .....	III	48	58
railing, wrought .....	do .....	III	48	58
rolled, production of .....	Iron and Steel .....		7	743
rolling-mills of the United States .....	do .....	II	14-19	750-755
work, architectural and ornamental .....	Statistics of Manufactures .....	III	48, 49	58, 59
Israelites, their knowledge of the iron industry .....	Iron and Steel .....		33, 34	760, 770
Italian cloths .....	Wool Manufacture .....	Table.	13	975
glass manufacture, statistics of .....	Glass Manufacture .....	Table.	76	1114
Italians, importation of, for the advancement of the silk culture in Georgia, in 1730 .....	Silk Manufacture .....		9	913
Italy and Malta, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
present condition of manufacture of glass in .....	Glass Manufacture .....		76	1114
Ivory and bone work .....	Statistics of Manufactures .....	III	49	59
and wood rules .....	do .....	III	69	70
bone, and lamp-black .....	do .....	III	19	29
<b>J.</b>				
Jackets, cardigan .....	Wool Manufacture .....	Table.	19	981
fancy .....	do .....	Table.	19	981
Jamestown, Va., early glass-making at .....	Glass Manufacture .....		77	1115
Japan, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
Japanning .....	Statistics of Manufactures .....	III	49	59
Jarves, Mr., on Venetian glass-making .....	Glass Manufacture .....		65	1108
Java, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
Jeans .....	Wool Manufacture .....	Table.	9	971
Jersey City, N. J., manufactures of .....	Statistics of Manufactures .....	VI	406, 407	416, 417
Jewel-making .....	Interchangeable Mechanism .....		65	681
Jewelry .....	Statistics of Manufactures .....	III	49	59
and instrument cases .....	do .....	III	49	59
Jigging- or edging-machines .....	Interchangeable Mechanism .....		26	642
Jigs used in gun work .....	do .....		3	619
Johnson, Chas. W., special agent, collection of manuf'g statistics of Minneapolis, Minn. .....	Statistics of Manufactures .....	VI	412	422
Johnson, Sir Nuthall, and his early endeavors to establish silk culture in South Carolina .....	Silk Manufacture .....		6	910
Johnson's <i>Rambler</i> quoted .....	Glass Manufacture .....		22	1060
Joint molds .....	do .....		47	1035
Jute and jute goods .....	Statistics of Manufactures .....	III	50	60
Jute, flax, and hemp bagging .....	do .....	III	16	26
<b>K.</b>				
Kalt-schüren .....	Glass Manufacture .....		44	1082
<b>Kansas:</b>				
History of the iron industry in .....	Iron and Steel .....		111	847
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	110, 120	139, 130
by totals of counties, in .....	do .....	IV	117-119	127-129
Power used in manufactures in .....	Power used in Manufactures .....	Table.	22	514
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	241-243	251-253
Kansas City, Mo., manufactures of .....	do .....	VI	407	417
Kaolin and ground earths .....	do .....	III	50	60

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Keene, N. H., glass-making at .....	Glass Manufacture .....		93	1130
Kensington, Pa., glass works at .....	do .....		80	1118
<b>Kentucky:</b>				
Early iron enterprises in .....	Iron and Steel .....		99	835
History of glass-making in .....	Glass Manufacture .....		98	1186
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	121-123	131-133
by totals of counties, in .....	do .....	IV	120, 121	130, 131
Number of salt establishments in .....	Chemical Products and Salt .....		29	1019
Power used in manufactures in .....	Power used in Manufactures .....	Table.	22	514
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....		243-249	253-259
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	16	1054
Kersey .....	Wool Manufacture .....	Table.	9	971
Kindling wood .....	Statistics of Manufactures .....	III	50	60
Knit goods and hosiery, power used in manufacture of .....	Power used in Manufactures .....	Table.	14	506
fancy .....	Wool Manufacture .....	Table.	19	961
Knitting-machines .....	do .....	Table.	5, 18	967, 980
Knobs, making .....	Hardware, Cutlery, and Edge-tools .....		9	715
<b>L.</b>				
Labels and tags .....	Statistics of Manufactures .....	III	50	60
Labor ( <i>see also</i> Hands employed).				
Labor, division and efficiency of:				
in ax manufacture .....	Hardware, Cutlery, and Edge-tools .....		13	719
in gun-making .....	Interchangeable Mechanism .....		5	921
in hardware manufacture .....	Hardware, Cutlery, and Edge-tools .....		2	708
in locomotive work .....	Interchangeable Mechanism .....		49, 50	665, 666
in making cutlery .....	Hardware, Cutlery, and Edge-tools .....		14	720
in pistol-making .....	Interchangeable Mechanism .....		5	921
in watch-making .....	do .....		64	680
division of, at early glass furnaces .....	Glass Manufacture .....		34	1072
female, in clock-making .....	Interchangeable Mechanism .....		63	685
in watch-making .....	do .....		62	678
hours of .....	Iron and Steel .....		9	745
of females and youths in hardware manufacture .....	Hardware, Cutlery, and Edge-tools .....	Tables.	8	714
saved by cold pressing .....	Interchangeable Mechanism .....		22	638
by improved agricultural implements .....	do .....		75-78	691-694
by the American system in watch-making .....	do .....		66, 61	676, 677
by uniform standards of locomotives .....	do .....		47	603
in band and balance-wheel turning .....	do .....		38	654
in bench-molding .....	Hardware, Cutlery, and Edge-tools .....		10	710
in clock manufacture .....	Interchangeable Mechanism .....		68, 69	684, 685
in cylinder-boring .....	do .....		55	671
in drilling truck-frames .....	do .....		58	674
in plate-planing .....	do .....		52	668
in sewing-machine foundries .....	do .....		34	650
in wire-working .....	Hardware, Cutlery, and Edge-tools .....		9	715
Laborers employed in woolen factories .....	Wool Manufacture .....	Table.	5, 13-15, 17, 19	967, 975-977, 979, 981
in cotton manufacture, condition and habits of .....	Cotton Manufacture .....		9, 10	949, 950
number of, employed in cotton factories .....	do .....		15	955
Labor-saving in gun-making .....	Interchangeable Mechanism .....		4, 5	920, 921
in japanning .....	do .....		43	659
in turning stocks .....	do .....		14	630
in wood-working .....	do .....		43	659
Lace goods and millinery .....	Statistics of Manufactures .....	III	58	68
Laces, silk, commencement of the manufacture of, in 1790, at Ipswich, Mass .....	Silk Manufacture .....		14	918
Lamp and gas fixtures .....	Statistics of Manufactures .....	III	42	52
bone, and ivory-black .....	do .....	III	19	29
chimneys, number made .....	Glass Manufacture .....		11	1049
Lamps and reflectors .....	Statistics of Manufactures .....	III	50	60
number made .....	Glass Manufacture .....		11	1040
pressing .....	do .....		48	1086
do .....	do .....		80	1118
Lancaster, Pa., glass-making at .....	Statistics of Manufactures .....	VI	407, 408	417, 418
manufactures of .....	do .....	VI	429	439
Langdon, A. L., special agent, collection of manufacturing statistics of Quincy, Ill .....	do .....	VI	435	445
Langley, Henry G., chief special agent, collection of manufacturing statistics of San Francisco, Cal. .....	do .....	III	50	60
Lapidary work .....	Interchangeable Mechanism .....		39	655
Lapping rolls and arbors .....	do .....		45	661
Lap-welded tubes .....	Glass Manufacture .....		19	1057
Lardner's definition of glass (note) .....				

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Lard, oil.....	Statistics of Manufactures.....	III	61	71
refined.....	do.....	III	51	61
Lastings.....	Wool Manufacture.....	Table.	18, 17	975, 979
Lasts.....	Statistics of Manufactures.....	III	51	61
Law, John, efforts of, to establish silk culture in Louisiana in 1718.....	Silk Manufacture.....		7	911
Lawrence, Mass., manufactures of.....	Statistics of Manufactures.....	VI	408	418
*Lead, bar, pipe, sheet, and shot.....	do.....	III	51	61
effect of, in the manufacture of glass.....	Glass Manufacture.....		33	1071
used as a flux, on time of melting glass.....	do.....		44	1082
flint-glass, composition of.....	do.....	Table.	19, 42, 66	1057, 1080, 1104
glass.....	do.....	Table.	21, 23, 33, 57	1050, 1061, 1071, 1095
pencils.....	Statistics of Manufactures.....	III	64	74
use of, as a glass-making material.....	Glass Manufacture.....		33	1071
Leaf and foil, gold and silver.....	Statistics of Manufactures.....	III	43	53
Leather belting and hose.....	do.....	III	17, 18	27, 28
board.....	do.....	III	51	61
curried.....	do.....	VII	453	463
dressed skins.....	do.....	III	51	61
goods.....	do.....	III	52	62
patent and enameled.....	do.....	III	52	62
tanned.....	do.....	VII	453	463
tanning, extent and geographical distribution of.....	Introductory Remarks.....		xxi	*21
Lebkicher, Wm. H., special agent, collection of manuf'g statistics of Lancaster, Pa.....	Statistics of Manufactures.....	VI	407	417
Leblanc's discovery of soda-ash.....	Glass Manufacture.....		31	1069
process for the manufacture of soda from salt.....	Chemical Products and Salt.....		12, 20	1002, 1010
Ledyard, Irvin, special agent, collection of manufacturing statistics of Mobile, Ala.....	Statistics of Manufactures.....	VI	412	422
Leer, description of.....	Glass Manufacture.....		51	1689
Leggins.....	Wool Manufacture.....	Table.	18	980
Legislation, factory.....	Factory System.....		55	587
in America.....	do.....		58	590
Legislature, early action of Massachusetts, encouraging glass-making..... (See, also, Congress.)	Glass Manufacture.....		39	1127
Leonard, A. A., special agent, collection of manuf'g statistics of Salt Lake City, Utah.....	Statistics of Manufactures.....	VI	435	445
Letter on manufacturing statistics of Philadelphia, by Francis A. Walker.....	do.....		424, 425	434, 435
Lever-press for making pressed glass.....	Glass Manufacture.....		47	1085
Liability of employer for accidents or injuries to employes through the negligence of a co-employe under the common-law doctrine in the United States and England.....	Factory System.....		59	591
of employers for injuries received by their workmen.....	do.....		58	590
Liebig, Baron, and the influence of his work on organic chemistry in its application to agriculture and physiology.....	Chemical Products and Salt.....		16	1900
Lightning rods.....	Statistics of Manufactures.....	III	52	62
Lights, calcium.....	do.....	III	24	34
electric.....	do.....	III	35	45
Limbs, artificial.....	do.....	III	15	25
Lime.....	do.....	III	52	62
acetate of, and its manufacture.....	Chemical Products and Salt.....		23	1013
an important glass-making material.....	Glass Manufacture.....		32	1070
glass, analyses of.....	do.....	Tables.	21-23	1050-1061
Limestone used in glass manufacture.....	do.....	Table.	18	1050
Lime-white flint-glass.....	do.....	Table.	42	1080
Linen belting and hose.....	Statistics of Manufactures.....	III	18	28
goods.....	do.....	III	52	62
thread.....	do.....	III	77	87
Lining, dress.....	Wool Manufacture.....	Table.	11	978
felt.....	do.....	Table.	14, 15	976, 977
knit, boot and shoe.....	do.....	Table.	19	981
rubber-shoe.....	do.....	Table.	14	976
Linseed oil.....	Statistics of Manufactures.....	III	61	71
Linsey.....	Wool Manufacture.....	Table.	9	973
Liquors, distilled.....	Statistics of Manufactures.....	III	52, 53	62, 63
extent and geographical distribution of the industry.....	Introductory Remarks.....		xxi, xxii	*21, *22
malt.....	Statistics of Manufactures.....	III	53	63
extent and geographical distribution of the industry.....	Introductory Remarks.....		xxii	*22
vinous.....	Statistics of Manufactures.....	III	53, 54	63, 64
List of expert special agents (see Export special agents).....				
Litharge or red lead used in glass manufacture.....	Glass Manufacture.....	Table.	18, 33	1050, 1071
Lithographing.....	Statistics of Manufactures.....	III	54	64
Loading cartridges.....	Interchangeable Mechanism.....		32	648
Loans of money to encourage manufactures, constitutionality of, discussed in Congress.....	Glass Manufacture.....		95	1133

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Lock- and gun-smithing .....	Statistics of Manufactures .....	III	54, 55	64, 65
Locks, gun, assembling "soft" .....	Interchangeable Mechanism .....		3	619
Locomotive boiler and tank work .....	do .....		50, 51	662, 667
life of a .....	do .....		46	662
Locomotives, historical sketch of the manufacture of .....	do .....		44	660
power and speed of .....	do .....		46	662
Lombe, Sir Thomas, and his silk-throwing mill at Derby, England .....	Silk Manufacture .....		6	916
London Petty Gazette on the invention of glass-pressing .....	Glass Manufacture .....		58	1096
Looking-glass and picture frames .....	Statistics of Manufactures .....	III	55	65
manufacture, in Austria, of thin sheet-glass for (note) .....	Glass Manufacture .....		44	1082
Looms in cotton manufacture .....	Cotton Manufacture .....	Table.	15	255
in woolen manufacture .....	Wool Manufacture .....	Table.	4, 12, 16, 18	366, 374, 378, 389
Loper, A. A., chief special agent, collection of manuf'g statistics of Milwaukee, Wis. ....	Statistics of Manufactures .....	VI	411	421
Lottery for raising funds to establish glass-making in New Hampshire .....	Glass Manufacture .....		92	1130
<b>Louisiana :</b>				
Attempted introduction of silk culture in, by John Law, in 1718 .....	Silk Manufacture .....		7	911
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	124, 125	134, 135
by totals of parishes, in .....	do .....	IV	123, 124	132, 134
Power used in manufactures in .....	Power used in Manufactures .....	Table.	23	514
Salt deposits on the island of Petite Anse, Iberia parish, in .....	Chemical Products and Salt .....		29	1019
Selected statistics of manufactures, by parishes, in .....	Statistics of Manufactures .....	V	249	259
Sulphur deposit in Calcasieu parish, in .....	Chemical Products and Salt .....		19	1009
Louisville, Ky., manufactures of .....	Statistics of Manufactures .....	VI	402, 409	412, 419
Low Countries, modern manufacture of glass in .....	Glass Manufacture .....		63	1166
Lowell, Francis C., and the development of the factory system in the United States ..	Factory System .....		8	549
Lowell, Mass., early glass works in .....	Glass Manufacture .....		90	1128
manufactures of .....	Statistics of Manufactures .....	VI	409, 410	412, 420
Lubricating oil .....	do .....	III	61	71
Lubrication of bullets .....	Interchangeable Mechanism .....		23	648
Luce, Chas. A., special agent, collection of manuf'g statistics of Manchester, N. H. ....	Statistics of Manufactures .....	VI	410	420
Lumber industry, extent and geographical distribution of the .....	Introductory Remarks .....		xix	*19
planed .....	Statistics of Manufactures .....	III	55, 56	65, 66
sawed .....	do .....	VII	454, 455	464, 465
power used in manufacture of .....	Power used in Manufactures .....	Table.	15	507
used, amount of .....	Glass Manufacture .....	Table.	18	1056
Lynn, Mass., manufactures of .....	Statistics of Manufactures .....	VI	410	420
<b>M.</b>				
McCarrer, Charles H., special agent, collection of manuf'g statistics of Evansville, Ind. ....	do .....	VI	402	412
McDonald, Minard, special agent, collection of manuf'g statistics of Auburn, N. Y. ....	do .....	VI	382	392
Machinery in use in 1830 in the silk factories at Mansfield, Conn .....	Silk Manufacture .....		17	921
of American silk-mills .....	do .....		18	922
total value of silk .....	do .....	Table.	25	929
total value of, used in manufacture of chemical products .....	Chemical Products and Salt .....		1	991
used for grinding plate-glass, description of .....	Glass Manufacture .....		46	1084
Machines for power-spinning, their introduction and early use .....	Factory System .....		6	538
of Hargreaves and Arkwright .....	do .....		3	535
used in glass works .....	Glass Manufacture .....	Tables.	5	1043
Machine-shop and foundery products .....	Statistics of Manufactures .....	III	39	48
twist, and the influence of its production .....	Silk Manufacture .....		18	922
<b>Maine :</b>				
History of iron industry in .....	Iron and Steel .....		63	729
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	126, 127	136, 137
by totals of counties, in .....	do .....	IV	125	135
Power used in manufactures in .....	Power used in Manufactures .....	Table.	23	515
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	249-252	259-262
Male and female employes, proportion of, in certain industries .....	Introductory Remarks .....	Tables.	xxxiv	*34
of, in cotton trade in England and America contrasted .....	Factory System .....		51	583
Malt .....	Statistics of Manufactures .....	III	56	66
Malta, cotton consumption of .....	Cotton Manufacture .....	Table.	2	342
Malt liquors .....	Statistics of Manufactures .....	III	53	63
extent and geographical distribution of the manufacture of .....	Introductory Remarks .....		xxii	*22
Manchester, England, and the criminal lists .....	Factory System .....	Table.	21	583
N. H., manufactures of .....	Statistics of Manufactures .....	VI	410	420
Manganese, effect of use of, on color of glass .....	Glass Manufacture .....		25	1063
used, amount of .....	do .....	Table.	18	1056
use of .....	do .....		33	1071
as a decolorizer .....	do .....		24	1063
Manipulation of glass, devitrification in its relation to .....	do .....		22	1060
Mansfield (Conn.) Silk Company .....	Silk Manufacture .....		14	818
Mantels, slate, marble, and marbleized .....	Statistics of Manufactures .....	III	56	66
Manufactures (see this volume, <i>passim</i> ).				

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>Manufactures, by totals of states and territories: 1880, 1870, 1860, 1850</b> .....	Statistics of Manufactures.....	I	5-8	15-18
increase of, since 1850.....	Introductory Remarks.....	Tables.	ix-xi	*9-*11
in each state and territory, by specified industries (B).....	Statistics of Manufactures.....	IV	88-192	98-202
by totals of counties (A).....	do.....	IV	88-191	98-201
of one hundred principal cities, by specified industries.....	do.....	VI	381-445	391-455
by totals.....	do.....	VI	379, 380	389, 390
Power used in, by Herman Hollerith.....	Power used in Manufactures.....		1-v, 1-33	487-525
in certain industries, by states and territories: 1880.....	do.....	Table.	11-18	503-510
in each state and territory, in certain selected industries: 1880.....	do.....	Table.	10-30	511-522
in the United States, by industries: 1880.....	do.....	Table.	10	502
by states and territories: 1880.....	do.....	Table.	0	501
remarks on the statistics of.....	Introductory Remarks.....		v-xlix	*5-*40
statistics of, comparison of occupation tables with.....	do.....	Tables.	xxviii-xxxiii	*28-*33
of, for 1850, 1860, 1870, and 1880, by geographical groups.....	do.....	Tables.	xii-xv	*12-*15
of, occupation tables, explanation of discrepancies in.....	do.....	Table.	xxxii, xxxiii	*31,*32
of, remarks on the.....	do.....		v-xlix	*5-*40
of, returned at the Tenth Census.....	Statistics of Manufactures.....		1-x, 1-473	1-486
<b>Manufacturing centers</b> .....	Introductory Remarks.....	Tables.	xxii, xxiii	*22,*23
establishments, number of, using power (1880).....	Power used in Manufactures.....		I	403
total number of: 1880, 1870, 1860, 1850.....	Statistics of Manufactures.....	I	5-8	15-18
mechanical, and mining industries, persons engaged in, by states and territories.....	Introductory Remarks.....	Table.	xxx	*30
persons in 50 principal cities engaged in.....	do.....	Table.	xxxiii	*33
<b>Manures, manufactured</b> .....	Chemical Products and Salt.....	Table.	16, 17	1006, 1007
<b>Marble and stone work</b> .....	Statistics of Manufactures.....	III	56, 57	66, 67
slate, and marbleized mantels.....	do.....	III	58	68
<b>"Market money," payment of</b> .....	Glass Manufacture.....		8	1040
<b>Marshall, A. R., special agent, collection of manuf'g statistics of Worcester, Mass.</b> .....	Statistics of Manufactures.....	VI	445	455
<b>Marshall, John, encouragement extended to, by the United Society for Promoting American Manufactures (Philadelphia) on account of his invention of machinery for throwing and twisting silk.</b> .....	Silk Manufacture.....		13	917
<b>Martin's Ferry, Ohio, glass-making at</b> .....	Glass Manufacture.....		79	1117
<b>Marver, use of</b> .....	do.....		51	1089
<b>Maryland:</b>				
Chrome-iron deposits in.....	Chemical Products and Salt.....		20	1910
History of glass-making in.....	Glass Manufacture.....		95, 96	1183, 1194
of iron industry in.....	Iron and Steel.....		89-92	825-828
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	128-180	138-140
by totals of counties, in.....	do.....	IV	128	138
Sand used in glass manufacture.....	Glass Manufacture.....		29	1067
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	253, 254	263, 264
Statistics of glass works, by counties, in.....	Glass Manufacture.....	Table.	16	1054
<b>Masonry, brick and stone</b> .....	Statistics of Manufactures.....	III	57	67
<b>Massachusetts:</b>				
Cities and towns in, with diversified industries, ratio of deaths in.....	Factory System.....	Table.	21	553
Commencement of silk-lace manufacture at Ipswich, in, in 1790.....	Silk Manufacture.....		14	918
Encouragement to Robert and Alexander Barr for the introduction of machinery for carding and spinning in.....	Factory System.....		0	538
Factory cities and towns and agricultural towas in, ratio of deaths in.....	do.....	Tables.	21	553
History of glass-making in.....	Glass Manufacture.....		88-91, 98	1126-1129, 1136
of iron industry in.....	Iron and Steel.....		58-62	704-708
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	131-134	141-144
by totals of counties, in.....	do.....	IV	130	140
Power used in manufactures in.....	Power used in Manufactures.....		23	515
Salt manufacture in.....	Chemical Products and Salt.....		29	1019
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	255-265	265-275
Silk production in, in 1837, statistics of.....	Silk Manufacture.....		17	921
Statistics of glass works, by counties, in.....	Glass Manufacture.....	Table.	16	1054
<b>Matches</b> .....	Statistics of Manufactures.....	III	57	67
<b>Materials, alkalis and other, used in glass-making</b> .....	Glass Manufacture.....		30-34	1068-1072
commonly used in the manufacture of manures.....	Chemical Products and Salt.....		17	1007
mixing of, in glass-making.....	Glass Manufacture.....	Tables.	41-45	1079-1083
the influence of, on the character of the glass.....	do.....		48	1081
used in chemical manufacture.....	Chemical Products and Salt.....		1	991
in cotton manufacture, value of.....	Cotton Manufacture.....	Table.	16	956
in manufacture of agricultural implements.....	Interchangeable Mechanism.....		79-81	695-697
of ammunition.....	do.....		30	646
of clocks.....	do.....		68	684
of cutlery and edge-tools.....	Hardware, Cutlery, and Edge-tools.....		14, 15	720, 721
of fire-arms.....	Interchangeable Mechanism.....		1	617

INDEX TO VOLUME ON MANUFACTURES.

1179

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Materials used in manufacture of glass .....	Glass Manufacture .....	Table.	18	1056
of glassware, value of .....	do .....	Table.	9	1047
of hardware .....	Hardware, Cutlery, and Edge-tools .....		2, 3	708, 709
of locomotives .....	Interchangeable Mechanism .....		40	662
of mowing-machines .....	do .....		81	697
of saws and files .....	Hardware, Cutlery, and Edge-tools .....		18	724
of sewing-machines .....	Interchangeable Mechanism .....		33, 34	649, 650
of watches .....	do .....		60	678
of woollen goods .....	Wool Manufacture .....	Table.	2, 0-8, 12-10	964, 968-970, 974-981
value of, used in all manufactures during the census years 1880, 1870, 1860, 1850.	Statistics of Manufactures .....	I	5-8	15-18
Maternity associations at Mulhouse, in Alsace .....	Factory System .....		24, 25	550, 557
Mats and matting .....	Statistics of Manufactures .....	III	58	68
Mattresses and spring-beds .....	do .....	III	58	68
Meat-packing and slaughtering industry, extent and geographical distribution of the .. not including retail butchering establishments	Introductory Remarks .....		xviii	*18
	Statistics of Manufactures .....	VII	404, 465	474, 475
Mechanical chargers .....	Glass Manufacture .....		43	1081
dentistry .....	Statistics of Manufactures .....	III	33	49
manufacturing, and mining industries, persons engaged in, by states and territories.	Introductory Remarks .....	Table.	xxx	*30
persons in 50 principal cities en- gaged in.	do .....	Table.	xxxiii	*33
mixers, use of .....	Glass Manufacture .....		43	1081
Mechanics in woollen manufacture .....	Wool Manufacture .....	Table.	5, 13-15, 17	967, 975-977, 979
Mechanics' wages .....	Factory System .....	Table.	40, 41	572, 573
Mechanism, Interchangeable, Manufacture of, by Charles H. Fitch .....	Interchangeable Mechanism .....		i-vi, 1-88	611-704
Medicines, patent, and compounds .....	Statistics of Manufactures .....	III	63	73
Melting in glass manufacture .....	Glass Manufacture .....	Tables.	41-45	1079-1083
Memphis, Tenn., manufactures of .....	Statistics of Manufactures .....	VI	411	421
Men's clothing .....	do .....	III	28	38
furnishing goods .....	do .....	III	40	50
Merritt, C. M., special agent, collection of manufacturing statistics of Lynn, Mass. ....	do .....	VI	410	420
Metallurgical slags, glass and .....	Glass Manufacture .....		59	1097
Metallurgy, influence of, on early glass-making .....	do .....		59	1097
Methods of collecting industrial statistics, discussion of the .....	Introductory Remarks .....		viii, ix	*8, *9
<b>Michigan:</b>				
History of the iron industry in .....	Iron and Steel .....		107-109	843-845
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	135-137	145-147
by totals of counties, in .....	do .....	IV	134, 135	144, 145
Power used in manufactures in .....	Power used in Manufactures .....		24	516
Salt-boring in .....	Chemical Products and Salt .....	Table.	20, 30	1010, 1020
Salt production of the several counties in .....	do .....	Table.	30	1020
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	205-273	275-283
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	16	1054
Middle states, cotton manufactures in .....	Cotton Manufacture .....	Table.	15, 16	955, 956
Millinery and lace goods .....	Statistics of Manufactures .....	III	58	68
Milling-cutters .....	Interchangeable Mechanism .....		24	640
feed-cams and heart-cams .....	do .....		38	634
machines, early use of .....	do .....		24, 25	640, 641
in gun work .....	do .....		22	638
pistol-hammers .....	do .....		24	640
sewing-machine parts .....	do .....		37	653
shuttle-races .....	do .....		39	655
Mills, A. B., chief special agent, collection of manufacturing statistics of Allegheny and Pittsburgh, Pa. ....	Statistics of Manufactures .....	VI	381, 426	391, 436
Millstones .....	do .....	III	58	68
Milton vase .....	Glass Manufacture .....		52	1090
Milwaukee, Wis., manufactures of .....	Statistics of Manufactures .....	VI	411, 412	421, 422
Mineral and soda waters .....	do .....	III	58, 59	68, 69
coal, first use of .....	Glass Manufacture .....		36	1074
Miner, Mr., of Pennsylvania, introduction of silk culture to the attention of Congress by, in 1825.	Silk Manufacture .....		15	910
Mining and shipping of phosphate rock in South Carolina, statistics of .....	Chemical Products and Salt .....	Tables.	18, 19	1008, 1009
manufacturing, and mechanical industries, persons engaged in, by states and territories.	Introductory Remarks .....	Table.	xxx	*30
persons in 50 principal cities en- gaged in.	do .....	Table.	xxxiii	*33
Minneapolis, Minn., manufactures of .....	Statistics of Manufactures .....	VI	412	422
<b>Minnesota:</b>				
First iron enterprise in, commenced at Duluth in 1873 .....	Iron and Steel .....		111	847

Subject.	Subject of monograph.	Monograph folio.		General folio. (at bottom of page).
		Number of table.	Page.	
<b>Minnesota—Continued.</b>				
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	198-140	148-150
by totals of counties, in .....	do .....	IV	187, 188	147, 148
Power used in manufactures of .....	Power used in Manufactures .....	Table.	24	516
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	273-277	283-287
Mirrors .....	do .....	III	59	69
manufacture of .....	Glass Manufacture .....		63, 70, 73, 74	{ 1101, 1108, 1111, 1112
<b>Mississippi:</b>				
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	141	161
by totals of counties, in .....	do .....	IV	140, 141	150, 151
Power used in manufactures in .....	Power used in Manufactures .....	Table.	24	516
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	277, 278	287, 288
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	16	1054
<b>Missouri:</b>				
History of glass-making in .....	do .....		97, 99	1185, 1187
of iron industry in .....	Iron and Steel .....		110, 111	846, 847
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	143-145	153-155
by totals of counties, in .....	do .....	IV	142, 143	152, 153
Power used in manufactures in .....	Power used in Manufactures .....	Table.	24	516
Sand used in glass-making .....	Glass Manufacture .....		29	1007
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	278-283	288-293
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	16	1054
Mitchell, Daniel L., special agent, collection of manuf'g statistics of Taunton, Mass .....	Statistics of Manufactures .....	VI	440	450
Mittens .....	Wool Manufacture .....	Table.	18	980
and gloves .....	Statistics of Manufactures .....	III	42	52
Mixed textile industry, extent and geographical distribution of the .....	Introductory Remarks .....		xx	*20
textiles .....	Statistics of Manufactures .....	VII	454, 455	464, 465
Mixers, mechanical, in glass manufacture .....	Glass Manufacture .....		43	1081
Mixing materials .....	do .....	Tables.	41-45	1079-1083
sand used .....	do .....		18	1056
the materials, influence of, on the character of the glass .....	do .....		43	1081
Mixture of two or more silicates, glass a fused .....	do .....		19	1057
Mobile, Ala., manufactures of .....	Statistics of Manufactures .....	VI	412, 413	422, 423
Models and patterns .....	do .....	III	59	69
Mogul type of locomotive .....	Interchangeable Mechanism .....		44	660
Mohair and wools .....	Wool Manufacture .....	Table.	6, 12, 16, 18	868, 974, 978, 980
Molasses and sugar .....	Statistics of Manufactures .....	III	77	87
refined, power used in manufacture of .....	Power used in Manufactures .....	Table.	17	509
Molded glass, ancient .....	Glass Manufacture .....		57	1095
Molding articles, modern .....	do .....		47-49	1085-1087
Molds, blowing in, description of method of .....	do .....		51	1089
Molineaux, William, and the spinning, dyeing, and manufacturing of silk in Boston .....	Silk Manufacture .....		13	917
Monkey-ovens in window-glass factories, number of .....	Glass Manufacture .....		4	1042
Monopoly of glass-making in Connecticut granted .....	do .....		94	1032
Monroe, J. Albert, chief special ag't, collection of manuf'g statistics of Providence, R. I. .....	Statistics of Manufactures .....	VI	428	438
<b>Montana:</b>				
Manufactures, by specified industries, in .....	do .....	IV	146	156
by totals of counties in .....	do .....	IV	146	156
Power used in manufactures in .....	Power used in Manufactures .....	Table.	25	517
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	283	293
Moore, Governor, on glass-making in New York .....	Glass Manufacture .....		93	1131
Morris, D. P., special agent, collection of manufacturing statistics of Norfolk, Va. ....	Statistics of Manufactures .....	VI	419	429
Mortality, infantile, among factory operatives in Germany .....	Factory System .....		23	555
rate of Oldham, in comparison with several places in England having differ- ent kinds of manufactures. ....	do .....	Table.	80	562
to 1,000 persons in each occupation in Paris, France, in 1853 .....	do .....		28	560
Morus multicaulis, the, in the United States .....	Silk Manufacture .....		15-17	919-921
Months of rivers, location of ancient glass factories at .....	Glass Manufacture .....		25	1063
Mucilage and paste .....	Statistics of Manufactures .....	III	59	69
Mulberry trees, and their cultivation in Virginia in 1623 .....	Silk Manufacture .....		8	907
experiments of Dr. Ezra Stiles in the planting of .....	do .....		13	917
tree, the, and the profits attending its cultivation .....	do .....		16, 17	920, 921
measures adopted in England for the cultivation of, under James I. ....	do .....		2	906
Mules in glass factories, number of .....	Glass Manufacture .....	Table.	4, 5	1042, 1043
Mule spinning-machine, Samuel Crompton and the .....	Factory System .....		3	535
Murano, establishment of glass manufacture at .....	Glass Manufacture .....		65	1103
Musical instruments and materials .....	Statistics of Manufactures .....	III	59, 60	69, 70
<b>N.</b>				
Nails and spikes, iron, cut and wrought .....	do .....	III	48	58
used in glass factories .....	Glass Manufacture .....	Table.	18	1056
Nashville, Tenn., manufactures of .....	Statistics of Manufactures .....	VI	413	423
Native and foreign population in manufacturing industry .....	Introductory Remarks .....	Tables.	xxxvi-xxxviii	*36-38

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Natron lakes of Egypt.....	Glass Manufacture.....		80	1005
Natural glass, definition of (note).....	do.....		20	1058
Neat's-foot oil.....	Statistics of Manufactures.....	III	62	72
<b>Nebraska:</b>				
First iron works in, established at Omaha in 1879.....	Iron and Steel.....		111	847
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	147, 148	157, 158
by totals of counties, in.....	do.....	IV	140, 147	150, 157
Power used in manufactures in.....	Power used in Manufactures.....	Table.	25	517
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	283-285	203-205
Needle-making.....	Interchangeable Mechanism.....		41	657
Needles and pins.....	Statistics of Manufactures.....	III	60	70
Negroes, employment of, in silk-raising.....	Silk Manufacture.....		6	910
Nets and seines.....	Statistics of Manufactures.....	III	61	71
Neuendorf, Max, special agent, collection of manuf'g statistics of San Antonio, Tex.....	do.....	VI	435	445
<b>Nevada:</b>				
Analyses of alkaline incrustations or efflorescences in.....	Chemical Products and Salt.....		14	1004
Borax works of.....	do.....		21	1011
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	148, 149	158, 159
by totals of counties, in.....	do.....	IV	148	158
Power used in manufactures in.....	Power used in Manufactures.....	Table.	25	517
Salt manufacture in.....	Chemical Products and Salt.....		31	1021
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	285	205
Sulphur works at Humboldt station, in.....	Chemical Products and Salt.....		19	1009
Newark, N. J., manufactures of.....	Statistics of Manufactures.....	VI	413, 414	423, 424
New Bedford, Mass., manufactures of.....	do.....	VI	414, 415	424, 425
Newcastle-on-Tyne, glass-making at.....	Glass Manufacture.....		64	1102
New England sand used in glass-making.....	do.....		20	1067
<b>New Hampshire:</b>				
History of glass-making in.....	Glass Manufacture.....		90, 91, 93	1123, 1129, 1131
of iron industry in.....	Iron and Steel.....		63	799
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	149-151	150-161
by totals of counties, in.....	do.....	IV	149	159
Power used in manufactures in.....	Power used in Manufactures.....	Table.	25	517
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	285-288	205-298
Statistics of glass works, by counties, in.....	Glass Manufacture.....	Table.	18	1054
New Haven, Conn., manufactures of.....	Statistics of Manufactures.....	VI	415	425
<b>New Jersey:</b>				
History of glass-making in.....	Glass Manufacture.....		93, 97	1134, 1135
of iron industry in.....	Iron and Steel.....		67-71	803-807
of the silk culture in.....	Silk Manufacture.....		14	918
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	151-154	161-164
by totals of counties, in.....	do.....	IV	151	161
Power used in manufactures in.....	Power used in Manufactures.....	Table.	25, 26	517, 518
Sand used in glass-making.....	Glass Manufacture.....		20	1007
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	288-294	298-304
Silk raising in, at Burlington.....	Silk Manufacture.....		16	920
Statistics of glass works, by counties, in.....	Glass Manufacture.....	Table.	17	1055
<b>New Mexico:</b>				
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	154	164
by totals of counties, in.....	do.....	IV	154	164
Power used in manufactures in.....	Power used in Manufactures.....	Table.	20	518
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	295	305
New Orleans, La., manufactures of.....	do.....	VI	416	426
Newport, Ky., manufactures of.....	do.....	VI	416, 417	426, 427
<b>New York:</b>				
Growth of the manufacture of silk fringes and tassels in.....	Silk Manufacture.....		17	921
History of glass-making in.....	Glass Manufacture.....		93, 94	1131, 1132
of iron industry in.....	Iron and Steel.....		64-67	800-803
of the salt industry in.....	Chemical Products and Salt.....	Table.	31-33	1021-1023
of the silk culture in.....	Silk Manufacture.....		14	918
Industries returned at census of 1920 for state of.....	Introductory Remarks.....		v, vi	*5, *6
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	155-159	165-169
by totals of counties, in.....	do.....	IV	155	165
Power used in manufactures in.....	Power used in Manufactures.....	Table.	26	518
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	295-318	305-326
Statistics of glass works, by counties, in.....	Glass Manufacture.....	Table.	17	1055
New York, N. Y., manufactures of.....	Statistics of Manufactures.....	VI	417-419	427-429
Nicholson furnace, description of.....	Glass Manufacture.....		37	1075
furnaces, number of.....	do.....		4	1042
Nickel-finishing watch-plates.....	Interchangeable Mechanism.....		65	681
Nickerson, E. J., special agent, collection of manuf'g statistics of Kansas City, Mo.....	Statistics of Manufactures.....	VI	407	417

Subject.	Subject of monograph.	Monograph folio.		General folio. (at bottom of page).
		Number of table.	Page.	
Ninth and Tenth Censuses, comparison of the statistics of power as returned at the Census, returns of industrial statistics at the.....	Power used in Manufactures .....	Table.	1	493
	Introductory Remarks.....		viii	*8
Nitrate of soda used in glass manufacture .....	Glass Manufacture .....	Table.	18, 32	1650, 1070
Nitro-glycerine, manufacture of.....	Chemical Products and Salt .....	Table.	22	1012
Noils, shorts, etc.....	Wool Manufacture .....	Table.	13, 17	975, 970,
Nolle, Martin A., special agent, collection of manuf'g statistics of Fort Wayne, Ind.....	Statistics of Manufactures .....	VI	403	413
Norfolk, Va., manufactures of .....	do .....	VI	419	429,
Normandy, glass-making in.....	Glass Manufacture .....		63	1101
<b>North Carolina:</b>				
History of iron industry in .....	Iron and Steel .....		96, 100	892, 836,
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	169, 161	170, 171,
by totals of counties, in.....	do .....	IV	159, 160	160, 170.
Power used in manufactures in.....	Power used in Manufactures .....	Table.	26	518.
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures .....	V	317-319	327-329,
Northington, S. S., special agent, collection of manuf'g statistics of Petersburg, Va.....	do .....	VI	421	431,
Northrup, A. B., special agent, collection of manufacturing statistics of Utica, N. Y.....	do .....	VI	442	452.
Norton, Captain, sent to Virginia to make glass.....	Glass Manufacture .....		78	1116
Norway and Sweden, cotton consumption in .....	Cotton Manufacture.....	Table.	2	642.
glass-making in .....	Glass Manufacture .....		70, 77	1108, 1115.
Nozzle-annealing cartridges .....	Interchangeable Mechanism.....		31	647.
Nubias.....	Wool Manufacture .....	Table.	10	981.
Nut-boring gun-barrels .....	Interchangeable Mechanism.....		9	625.
Nuts, bolts, washers, and rivets (iron).....	Statistics of Manufactures .....	III	47	57.
<b>O.</b>				
Oakland, Cal., manufactures of .....	do .....	VI	410	429,
Obsidian (note) .....	Glass Manufacture .....		20	1058
Occupations, influence of, upon mortality at different ages.....	Factory System .....	Table.	28	590.
Occupation tables and statistics of manufactures, explanation of discrepancies in .....	Introductory Remarks .....		xxx1, xxxii	*31, *32.
comparison of statistics of manufactures with.....	do .....	Tables.	xxviii-xxxiii	*28-*30.
Odenheimer, William, special agent, collection of manuf'g statistics of Denver, Colo.....	Statistics of Manufactures .....	VI	398	408.
Officers and clerks in cotton manufactories .....	Cotton Manufacture .....	Table.	15	955.
in woolen manufactories.....	Wool Manufacture .....	Table.	5, 13-15, 17, 19	967, 975-977, 979, 981,
<b>Ohio:</b>				
History of glass-making in .....	Glass Manufacture .....		97	1195.
of iron industry in .....	Iron and Steel.....		102-105	838-841.
of the salt industry in, and West Virginia.....	Chemical Products and Salt .....	Tables.	33-35	1023-1035.
Manufactures, by specified industries, in .....	Statistics of Manufactures.....	IV	162-165	172-175.
by totals of counties, in .....	do .....	IV	161, 162	171, 172.
Power used in manufactures in .....	Power used in Manufactures .....	Table.	26, 27	518, 519,
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures.....	V	319-330	329-340.
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	17	1055.
Oil, castor.....	Statistics of Manufactures.....	III	61	71,
cottonseed, and cake.....	do .....	III	61	71.
essential.....	do .....	III	61.	71.
illuminating, not including petroleum refining .....	do .....	III	61.	71.
lard.....	do .....	III	61	71.
linseed.....	do .....	III	61	71.
lubricating .....	do .....	III	61	71.
neat's-foot .....	do .....	III	62	72.
resin.....	do .....	III	62	72.
Oilcloth, enameled .....	do .....	III	62	72.
floor .....	do .....	III	62	72.
Oleomargarine .....	do .....	III	62	72.
Omaha, Nebr., manufactures of .....	do .....	VI	419, 420	429, 430,
Onondaga county, New York, statistics of the salt industry in.....	Chemical Products and Salt .....	Table.	32	1022
Open-hearth and Bessemer steel works of the United States.....	Iron and Steel.....	III	20-22	756-758.
steel, production of (see also Steel) .....	do .....		8.	744.
Operatives in cotton manufacture, condition and habits of.....	Cotton Manufacture .....		9, 10.	949, 956
in woolen factories .....	Wool Manufacture .....	Table.	5, 13-15, 17, 19	967, 975-977, 979, 981.
(See Laborers and hands employed.)				
Optical glass .....	Glass Manufacture .....		21, 46	1059, 1084.
<b>Oregon:</b>				
History of iron industry in .....	Iron and Steel .....		112	848.
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	165, 166	175, 176
by totals of counties, in .....	do .....	IV	165	175.
Power used in manufactures in.....	Power used in Manufactures .....	Table.	27	519.
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures .....	V	330, 337	346, 347.
Organs and materials .....	do .....	III	60.	70.

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Ornamental and architectural iron work .....	Statistics of Manufactures .....	III	48, 40	58, 59
Ornamented, cut, and stained glass .....	do .....	III	42	52
Ornamenting clock cases .....	Interchangeable Mechanism .....		09	635
sewing-machines .....	do .....		43	659
Oswego, N. Y., manufactures of .....	Statistics of Manufactures .....	VI	420	430
Outside-connected engines .....	Interchangeable Mechanism .....		44	660
locomotive frames .....	do .....		44	660
Ovens used in glass works, kind and number of .....	Glass Manufacture .....	Table.	5	1043
Overcoatings, woolen .....	Wool Manufacture .....	Table.	9, 14	971, 976
worsted .....	do .....	Table.	11	978
<b>P.</b>				
Packing boxes, wooden .....	Statistics of Manufactures .....	III	22	32
Painted glass a German invention .....	Glass Manufacture .....		03	1101
chemical classification and definition of .....	do .....		20	1058
statistics of, not included in Mr. Weeks' report .....	do .....		1	1080
Painting and paperhanging .....	Statistics of Manufactures .....	III	62	72
Paints .....	do .....	III	63	73
Pallet (watch) making .....	Interchangeable Mechanism .....		66	692
Palmer, Mr. Charles, on the production of plate-glass in England, France, and Belgium .....	Glass Manufacture .....	Table.	70, 71	1108, 1109
Paper .....	Statistics of Manufactures .....	VII	456	466
bags .....	do .....	III	16	26
collars and cuffs .....	do .....	III	30	40
patterns .....	do .....	III	63	73
power used in manufacture of .....	Power used in Manufactures .....	Table.	15, 16	507, 508
sand and emery .....	Statistics of Manufactures .....	III	70	80
shell cartridges, manufacture of .....	Interchangeable Mechanism .....		32	648
Paperhanging and painting .....	Statistics of Manufactures .....	III	62	72
Paperhangings .....	do .....	III	63	73
Paste and mucilage .....	do .....	III	59	69
Patching bullets .....	Interchangeable Mechanism .....		31	647
Patent and enameled leather .....	Statistics of Manufactures .....	III	52	62
medicines and compounds .....	do .....	III	63	73
plate, definition of .....	Glass Manufacture .....		20	1058
how made .....	do .....		51	1089
Paterson, N. J., manufactures of .....	Statistics of Manufactures .....	VI	420	430
Patterns and models .....	do .....	III	59	69
paper .....	do .....	III	63	73
Paul, Franc M., special agent, collection of manufacturing statistics of Nashville, Tenn. ....	do .....	VI	413	423
Paving materials .....	do .....	III	64	74
Payment of wages in glass manufacture .....	Glass Manufacture .....	Tables.	8	1046
Pearlash and potash, production of .....	Chemical Products and Salt .....	Table.	20	1010
used in glass manufacture .....	Glass Manufacture .....	Table.	18	1050
Peel, Sir Robert, and his measures .....	Factory System .....		58	588
Pelé's hair (note) .....	Glass Manufacture .....		20	1058
Pellatt on the invention of glass-pressing .....	do .....		58	1006
Pembroke, N. H., glass-making at .....	do .....		92	1120
Pencils, lead .....	Statistics of Manufactures .....	III	64	74
<b>Pennsylvania:</b>				
First salt works in .....	Chemical Products and Salt .....		35	1025
Glass works in, in 1810 .....	Glass Manufacture .....		82	1120
History of glass-making in .....	do .....	Tables.	70-88	1117-1126
of the iron industry in .....	Iron and Steel .....		71-88, 140, 141	807-824, 876, 877
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	167-170	177-180
by totals of counties, in .....	do .....	IV	160, 167	176, 177
Power used in manufactures in .....	Power used in Manufactures .....	Table.	27	519
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	337-351	347-361
Silk culture in .....	Silk Manufacture .....		11	915
Statistics of glass works, by counties, in .....	Glass Manufacture .....	Table.	17	1055
The culture of the mulberry tree in .....	Silk Manufacture .....		14	918
Pens, gold .....	Statistics of Manufactures .....	III	64	74
steel .....	do .....	III	64	74
Peoria, Ill., manufactures of .....	do .....	VI	421	431
Percentage of gain in manufacturing industries: 1850-1860, 1860-1870, 1870-1880, 1880-1880, 1850-1880 .....	Introductory Remarks .....	Table.	xi	*11
Percussion caps, manufacture of .....	Interchangeable Mechanism .....		30	646
Perfumery and cosmetics .....	Statistics of Manufactures .....	III	64	74
Persia, glass-making in .....	Glass Manufacture .....		64	1102
Petersburg, Va., manufactures of .....	Statistics of Manufactures .....	VI	421	431
Petroleum, use of, in glass manufacture .....	Glass Manufacture .....		4	1042
Pfeiffer, Carl, estimate of fresh air required by each person every hour .....	Factory System .....		26, 27	558, 559

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Philadelphia, Pa., early glass-making near	Glass Manufacture		80	1118
letter by Hon. Francis A. Walker on manufacturing statistics of	Statistics of Manufactures		424, 425	434, 435
manufacture of flint-glass in	Glass Manufacture		80	1118
manufactures of	Statistics of Manufactures	VI	421-425	431-435
Phœnicia, Aggry beads made in	Glass Manufacture		60	1098
Phœnician glass	do		25, 60	1063, 1098
character of	do		61	1099
sand	do		25	1063
Phœnicians as iron makers	Iron and Steel		34, 35	770, 771
Phosphate rock, mining and shipping of, in South Carolina, statistics of	Chemical Products and Salt	Tables.	18, 19	1088, 1099
Phosphates in South Carolina	do		17	1007
of South Carolina, analyses of	do		19	1009
Phosphorus and its production in the United States	do		21	1011
Photographic apparatus	Statistics of Manufactures	III	64	74
Photographing	do	III	64, 65	74, 75
materials	do	III	65	75
Piano covers	Wool Manufacture	Table.	14	970
Pianos and materials	Statistics of Manufactures	III	60	70
Pickering, E. B., special agent, collection of manuf'g statistics of Elmira, N. Y.	do	VI	401	411
Pickles, preserves, and sauces	do	III	65	75
Picture and looking-glass frames	do	III	55	65
Picture cord	Wool Manufacture	Table.	12	974
Piecers' wages	Factory System	Tables.	40	572
Pig-iron, production of	Iron and Steel		7	743
Pinckney, Mrs., success of, in silk raising and spinning	Silk Manufacture		7	911
Pinion-cutting	Interchangeable Mechanism		63, 64, 67	679, 680, 685
Pins and needles	Statistics of Manufactures	III	60	70
Pipe, bar, sheet, and shot, lead	do	III	51	61
wrought-iron	do	III	48	58
Pipes for drains and sewers	do	III	34	44
tobacco	do	III	65	75
Pittsburgh, Pa., constituents of its glass	Glass Manufacture	Tables.	42, 43	1080, 1081
glass-houses, sources of supply of sand for	do		20	1007
history of glass manufacture in	do		85-87	1123-1125
manufactures of	Statistics of Manufactures	VI	428	436
statistics of the manufacture of glass in	Glass Manufacture	Tables.	87, 88	1125, 1126
Planned lumber	Statistics of Manufactures	III	55, 56	65, 66
Planer, an early power	Interchangeable Mechanism		53, 54	689, 670
Planing boiler-plate	do		52	608
Plant of glass factories	Glass Manufacture		4	1042
Plants for gun-making	Interchangeable Mechanism		4, 12, 22	620, 628, 638
for gun-stocks	do		18, 19	634, 635
for the manufacture of agricultural implements	do		84	700
of locomotives	do		58	609
of sewing-machine cases	do		42	653
of sewing-machines	do		35	651
machine, for forging gun parts	do		22	638
for the manufacture of axes	Hardware, Cutlery, and Edge-tools		14	720
Plated and britannia ware	Statistics of Manufactures	III	65	75
Plate-glass, analyses of	Glass Manufacture	Table.	23	1001
annealing	do		45, 46	1083, 1084
Austria-Hungary, production of, in	do		75	1113
Belgium, production of, in	do		57, 70	1095, 1108
capital invested in manufacture of	do		3	1041
casting	do		45	1083
chemically, classification of	do		20	1058
consolidated statistics of production of, etc	do		11	1049
constituents of	do	Table.	42	1080
England, production of, in	do		57, 70	1095, 1108
Europe, production of, in	do	Tables.	70, 71	1108, 1109
factories, definition of	do		1	1639
in Europe, number of	do		70	1108
France, production of, in	do		56, 66, 70, 73	1094, 1104 1168, 1111
French, character of	do		69	1107
grinding	do		46	1084
history of the, industry in the United States	do		98	1136
Indiana, production of, in	do		99	1137
kind of, produced at the different establishments	do		3	1041
largest plates of, made	do		40, 73	1084, 1111
Missouri, production of, in	do		99	1137

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Plate-glass, Palmer, Charles, on the production of, in England, France, and Belgium ..	Glass Manufacture .....	Tables.	70, 71	1102, 1169
polishing .....	do .....		46	1084
pots, size of .....	do .....		41	1079
prices of, in Europe .....	do .....	Table.	71	1169
process of manufacture of .....	do .....		45	1083
production of .....	do .....	Table.	9, 10	1047, 1048
rolling .....	do .....		45	1083
size of, made at Saint-Gobain .....	do .....		73	1111
smoothing .....	do .....		46	1084
statistics of production of .....	do .....		10	1048
Thevart's invention of .....	do .....		56	1094
thickness of .....	do .....		46	1084
time of melting, in English houses .....	do .....		44	1082
works, number of furnaces in .....	do .....	Tables.	3	1041
of pots in .....	do .....	Tables.	3	1041
do .....	do .....		59	1097
Pliny's story of the discovery of glass .....				
Plow manufacture .....	Interchangeable Mechanism .....		83	629
Plows, relative falling off in the use of .....	do .....		72	688
Plumbing and gas-fitting .....	Statistics of Manufactures .....	III	66	76
Pocket-books .....	do .....	III	66	76
Pottiers, glass found at .....	Glass Manufacture .....		63	1101
Polished plate, definition of .....	do .....		20	1052
establishments producing .....	do .....		3	1041
glass, value per square foot of .....	do .....		10	1048
Polishing and cleaning rice .....	Statistics of Manufactures .....	III	68	78
and cleansing preparations .....	do .....	III	28	32
gun-barrels and gun parts .....	Interchangeable Mechanism .....		10, 29	626, 645
machines in plate-glass factories, number of .....	Glass Manufacture .....		4	1042
plate-glass .....	do .....		46	1084
Pompeii, window-glass discovered at .....	do .....		50	1094
Pontil, use of .....	do .....		51	1089
Population, native and foreign, in manufacturing industry .....	Introductory Remarks .....	Tables.	xxxvi-xxxviii	*36-38
Portland, Mo., manufactures of .....	Statistics of Manufactures .....	VI	427	427
vase, the .....	Glass Manufacture .....		52	1090
Portugal and Spain, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
glass-making in .....	Glass Manufacture .....		70, 77	1102, 1115
Postal cards .....	Statistics of Manufactures .....	III	66	76
Potash and early modes of preparation of .....	Chemical Products and Salt .....		12	1092
and pearlash, amount and value of, produced in certain states during census year .....	do .....	Table.	20	1010
decrease in production of .....	do .....		20	1010
history and sources of supply of .....	Glass Manufacture .....		32	1070
Potassium bichromate, production and uses of .....	Chemical Products and Salt .....		20	1010
bromide, the discovery of its value as a nerve sedative in 1866, and the results .....	do .....		21	1011
Pot-clay, analyses of .....	Glass Manufacture .....	Table.	40	1078
different localities in which produced .....	do .....		39	1077
preparation of .....	do .....		40	1078
Pot metal .....	do .....		20	1058
Pots .....	do .....		24, 41	1072, 1079
covered, use of, in glass-making .....	do .....		57	1095
in glass factories, number of .....	do .....	Table.	18	1056
manufacture and setting of .....	do .....		40, 41	1078, 1079
Poughkeepsie, N. Y., manufactures of .....	Statistics of Manufactures .....	VI	427	427
Power and number of hands employed, comparison of, for principal industries, as returned at censuses of 1870 and 1880 .....	Power used in Manufactures .....	Table.	4	496
average amount of steam- and water-, reported per hand employed (1870-1880) .....	do .....	Table.	1	493
comparison of the statistics of, as returned at the Ninth and Tenth Censuses .....	do .....	Table.	1	493
distribution of steam- or water-, in five sections of the United States .....	do .....	Tables.	7	499
loom weaving in the manufacture of cotton cloths, etc., and the wages paid in the years 1839, 1849, and 1859 .....	Factory System .....	Table.	41	573
looms, increase in use of .....	Silk Manufacture .....		28	932
in England and America .....	Factory System .....		7	539
number of manufacturing establishments using steam- or water- (1880) .....	Power used in Manufactures .....		1	493
of water-wheels and steam-engines, average (1870-1880) .....	do .....		1	493
proportion of steam- and of water-, used in each state and territory in 1870 and 1880 .....	do .....	Table.	3	495
spinning-machines, their introduction and early use .....	Factory System .....		6	528
steam- and water-, average horse-power per sq. mile, by states and territories .....	Power used in Manufactures .....	Table.	6	498
in five sections of the U. S. .....	do .....	Table.	8	500
proportion of, in five sections of the United States .....	do .....	Table.	7	499
proportion of, used in principal industries in 1870 and 1880 .....	do .....	Table.	4	493
percentage of the total, reported in each state and territory (1880) .....	do .....	Table.	5	497

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Power, steam, total amount of, used in each state and territory, from 1870 to 1880, increase in the.	Power used in Manufactures .....	Table.	2	404
total amount of, used in principal industries, increase in .....	do .....	Table.	4	400
used in glass works .....	Glass Manufacture .....	Table.	5	1043
in industries not specified .....	Power used in Manufactures .....	Table.	18	510
in Manufactures, by Herman Hollerith .....	do .....		i-v, 1-33	487-525
in certain industries, by states and territories: 1880 .....	do .....	Table.	11-18	503-510
in each state and territory, in certain selected industries: 1880 .....	do .....	Table.	10-30	511-522
in the United States, by industries: 1880 .....	do .....	Table.	10	502
by states and territories: 1880 .....	do .....	Table.	9	501
water, percentage of the total, reported in each state and territory (1880) .....	do .....	Table.	5	407
Preliminary heating of batch .....	Glass Manufacture .....		43	1081
Report on Glass Manufacture, March 30, 1880 .....	do .....		ix	1037
Preparations for cleansing and polishing .....	Statistics of Manufactures .....	III	28	98
Prepared quartz, sand and, relative cost of, in Vienna .....	Glass Manufacture .....		28	1069
Present condition of glass-making in Europe .....	do .....	Tables.	09-77	1107-1115
Preserved and canned fruits and vegetables .....	Statistics of Manufactures .....	III	40	50
Preserves, pickles, and sauces .....	do .....	III	05	75
Preserving wood .....	do .....	III	86	00
Pressed glass, ancient, how made .....	Glass Manufacture .....		58	1006
history of its invention .....	do .....		58	1006
process of manufacture of .....	do .....		47	1085
Presses in glassware factories, number of .....	do .....		4	1042
Pressing, blowing and, united to produce same form of glass .....	do .....		45	1083
bottles .....	do .....		48	1086
casting and, related processes .....	do .....		45	1083
cold .....	Interchangeable Mechanism .....		21	637
curved hollow articles .....	Glass Manufacture .....		48	1086
effect of, in cheapening glass .....	do .....		58	1006
process of improvements in .....	do .....		47	1085
watch-cases .....	Interchangeable Mechanism .....		02	678
Prices of plate-glass in Europe .....	Glass Manufacture .....	Table.	71	1109
Primers, manufacture of .....	Interchangeable Mechanism .....		31	647
Prince Rupert's drops .....	Glass Manufacture .....		21, 53	1050, 1001
Printing and publishing .....	Statistics of Manufactures .....	III	60, 67	76, 77
power used in .....	Power used in Manufactures .....	Table.	16	508
materials .....	Statistics of Manufactures .....	III	67	77
Processes in making agricultural implements .....	Interchangeable Mechanism .....		83	699
cutlery .....	Hardware, Cutlery, and Edge-tools .....		15	721
gun-barrels .....	Interchangeable Mechanism .....		12	628
gun-stocks .....	do .....		18, 19	694, 635
hardware .....	Hardware, Cutlery, and Edge-tools .....		9	715
watches .....	Interchangeable Mechanism .....		61	677
in the manufacture of iron and steel .....	Iron and Steel .....		113-132	840-808
Process for making soda, the ammonia .....	Glass Manufacture .....		31	1060
the Solvay .....	do .....		31	1060
of manufacture of plate-glass .....	do .....		45	1083
Product of cotton manufacture .....	Cotton Manufacture .....	Table.	16	950
of glass, value of .....	Glass Manufacture .....	Table.	49	1047
of looms and spindles, in 1880 in the eastern states and New York .....	Factory System .....	Table.	52-54	584-586
the gross value of manufactured: 1850-1880 .....	Introductory Remarks .....	Tables.	x	*10
the net value of manufactured: 1850-1880 .....	do .....	Tables.	x	*10
the relation of net to gross manufactured, in 100 cities .....	do .....	Table.	xxiv, xxv	*24, *25
Products of wool manufacture .....	Wool Manufacture .....	Table.	2, 9, 12-19	964, 971, 974-981
total value of chemical .....	Chemical Products and Salt .....		1	991
value of, manufactured during the census years 1880, 1870, 1860, 1850 .....	Statistics of Manufactures .....	I	5-8	15-18
Professional and scientific instruments .....	do .....	III	47	57
Profiling gun parts .....	Interchangeable Mechanism .....		26	642
Profit in glass-making, no attempt to show .....	Glass Manufacture .....		ix	1037
Prosperity and thrift of the factory population in the United States .....	Factory System .....		31	569
Providence, R. I., manufactures of .....	Statistics of Manufactures .....	VI	428	438
Proving gun-barrels .....	Interchangeable Mechanism .....		10	620
Publishing and printing .....	Statistics of Manufactures .....	III	60, 67	76, 77
power used in .....	Power used in Manufactures .....	Table.	16	508
Pulp, wood .....	Statistics of Manufactures .....	III	86	96
Pumps, not including steam-pumps .....	do .....	III	67	77
Punching boiler-plates .....	Interchangeable Mechanism .....		51	667
fish-plates .....	do .....		58	674
needle-eyes .....	do .....		42	658
watch-dials .....	do .....		63	679

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
<b>Q.</b>				
Quartz, use of, in manufacture of glass.....	Glass Manufacture.....		24	1062
Quincy, Ill., manufactures of.....	Statistics of Manufactures.....	VI	429	430
Quinn, P. T., chief special agent, collection of manuf'g statistics of Newark, N. J.....	do.....	VI	413	423
<b>R.</b>				
Racking hose.....	do.....	III	67	77
Rag carpets.....	do.....	III	25	35
Railing, wrought-iron.....	do.....	III	48	58
Railroad and street cars and repairs.....	do.....	III	27	37
Rails, all kinds of, production of.....	Iron and Steel.....	Table.	8	744
and railroads.....	do.....		132-137	303-373
Randolph, Charles, chief special agent, collection of manuf'g statistics of Chicago, Ill.....	Statistics of Manufactures.....	VI	391	401
Rank of 100 cities according to population and value of manufactures.....	do.....	VI	370, 320	389, 390
of seven leading cities in certain industries.....	Introductory Remarks.....	Table.	xxvi	*20
of six leading industries in certain cities.....	do.....	Table.	xxvii	*27
of states in population, agriculture, and manufactures: 1880.....	do.....	Table.	xlii	*12
Rattan and whalebone.....	Statistics of Manufactures.....	III	84	94
and willow-ware baskets.....	do.....	III	17	27
Raw glass, production of, in Austria.....	Glass Manufacture.....		44	1082
Reading, Pa., manufactures of.....	Statistics of Manufactures.....	VI	429	430
Reaming gun-barrels.....	Interchangeable Mechanism.....		10	626
Réaumur's porcelain.....	Glass Manufacture.....		22	1060
Red lead or litharge, use of, in glass manufacture.....	do.....		18, 33	1056, 1071
Reduced and refined gold and silver (not from the ore).....	Statistics of Manufactures.....	III	43	53
Refined lard.....	do.....	III	51	61
or ground salt.....	Chemical Products and Salt.....	Table.	25	1015
sugar and molasses.....	Statistics of Manufactures.....	III	77	87
Refining and smelting (base scrap metal, not from the ore).....	do.....	III	73	83
Reflectors and lamps.....	do.....	III	50	60
Refrigerators.....	do.....	III	67, 68	77, 78
Regalia and society banners and emblems.....	do.....	III	63	73
Registers, car-fare.....	do.....	III	68	78
Regulating hair-springs.....	Interchangeable Mechanism.....		66, 67	682, 683
Remarks on the Statistics of Manufactures.....	Introductory Remarks.....		v-xlix	*5-40
Renaissance, influence of the, on glass-making.....	Glass Manufacture.....		66	1166
Repairing of watches and clocks.....	Statistics of Manufactures.....	III	83	93
Report on Cotton Manufacture, by Edward Atkinson.....	Cotton Manufacture.....		i-iii, 1-17	937-967
on Hardware, Cutlery, and Edge-tools, by Charles H. Fitch.....	Hardware, Cutlery, and Edge-tools.....		i, ii, 1-21	705-727
on Iron and Steel, by James M. Swank.....	Iron and Steel.....		i-vii, 1-104	720-900
on Manufacture of Interchangeable Mechanism, by Charles H. Fitch.....	Interchangeable Mechanism.....		i-vi, 1-88	611-704
on Power used in Manufactures, by Herman Hollerith.....	Power used in Manufactures.....		i-v, 1-33	487-525
on Silk Manufacture, by William C. Wyckoff.....	Silk Manufacture.....		i-iii, 1-31	901-935
on the Factory System of the United States, by Carroll D. Wright.....	Factory System.....		i-v, 1-78	527-610
on the Manufacture of Chemical Products and Salt, by William L. Rowland.....	Chemical Products and Salt.....		i-iv, 1-30	985-1023
on the Manufacture of Glass, by Joseph D. Weeks.....	Glass Manufacture.....		i-x, 1-114	1020-1152
on the Statistics of Manufactures.....	Statistics of Manufactures.....		i-ix, 1-476	1-480
on Woolen Manufacture, by George William Bond.....	Wool Manufacture.....		i-iii, 1-22	950-984
Reps.....	do.....	Table.	11, 13	973, 975
Resin oil.....	Statistics of Manufactures.....	III	62	72
Revolutionary war, interruption caused by, to silk enterprises.....	Silk Manufacture.....		12	916
Reworked glass not included in Report on Glass Manufacture.....	Glass Manufacture.....		1	1039
Reybaud, Louis, and his investigations among the factory operatives of France.....	Factory System.....		30	562
<b>Rhode Island:</b>				
Factory cities and towns and agricultural towns in, ratio of deaths in.....	do.....		22	554
History of iron industry in.....	Iron and Steel.....		60-62	796-798
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	171, 172	181, 182
by totals of counties, in.....	do.....	IV	171	181
Power used in manufactures in.....	Power used in Manufactures.....	Table.	27	519
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	351-353	361-363
Towns in, with diversified industries, ratio of deaths in.....	Factory System.....		22	554
Rice cleaning and polishing.....	Statistics of Manufactures.....	III	63	73
Rich, Marshal N., special agent, collection of manufacturing statistics of Portland, Me.....	do.....	VI	427	437
Richmond, Va., manufacture of glass at.....	Glass Manufacture.....		78	1116
manufactures of.....	Statistics of Manufactures.....	VI	490	440
Ridenour, J. M., chief special agent, collection of manuf'g statistics of Indianapolis, Ind.....	do.....	VI	405	415
Rifling gun- and pistol-barrels.....	Interchangeable Mechanism.....		10-12	626-628
Rim-fire cartridges, making.....	do.....		32	648
Rivets, bolts, nuts, and washers (iron).....	Statistics of Manufactures.....	III	47	57
Robes, carriage.....	Wool Manufacture.....	Table.	9	971
Rochester, N. Y., manufactures of.....	Statistics of Manufactures.....	VI	430, 431	440, 441

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Rolled brass and copper .....	Statistics of Manufactures .....	III	22	32
Rolled cathedral plate, definition of .....	Glass Manufacture .....		20	1058
iron, production of .....	Iron and Steel .....		7	743
plate .....	Glass Manufacture .....		20, 46	1058, 1084
Rolling, channel, bullets or slugs .....	Interchangeable Mechanism .....		31	647
gun-barrels .....	do .....		7	723
mills of the United States .....	Iron and Steel .....	II	14-10	750-755
plate-glass .....	Glass Manufacture .....		45	1083
silver plate .....	Interchangeable Mechanism .....		62	678
Rolls, woolen .....	Wool Manufacture .....	Table.	10	972
Roman glass .....	Glass Manufacture .....		62	1100
molded glass .....	do .....		57	1003
Romans, the, as iron makers .....	Iron and Steel .....		36, 37	772, 773
use of window-glass by the .....	Glass Manufacture .....		56	1094
Roofing and roofing materials .....	Statistics of Manufactures .....	III	68	78
Rosette-cutting .....	Interchangeable Mechanism .....		65	681
Rough plate .....	Glass Manufacture .....		3, 20, 40	1041, 1058, 1084
Rowland, William L., his Report on Manufacture of Chemical Products and Salt .....	Chemical Products and Salt .....		i-iv, 1-38	985-1028
Rubber and elastic goods .....	Statistics of Manufactures .....	III	68	78
belting and hose .....	do .....	III	18	28
boots and shoes .....	do .....	III	21	31
shoe linings .....	Wool Manufacture .....	Table.	14	976
vulcanized .....	Statistics of Manufactures .....	III	69	79
Rugs .....	Wool Manufacture .....	Table.	17	979
Rules, ivory and wood .....	Statistics of Manufactures .....	III	69	79
Rush, Richard, and the silk culture .....	Silk Manufacture .....		15	919
Russia, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
glass-making in .....	Glass Manufacture .....		68-70, 76	1100-1108, 1114
iron industry in .....	Iron and Steel .....		153	889
<b>S.</b>				
Sacques .....	Wool Manufacture .....	Table.	10	981
Sacramento, Cal., manufactures of .....	Statistics of Manufactures .....	VI	431	441
Saddlery and harness .....	do .....	III	69	79
hardware .....	do .....	III	45	55
Safes, doors, and vaults, fire-proof .....	do .....	III	69	79
Saint-Gobain Company .....	Glass Manufacture .....		73	1111
Saint Joseph, Mo., manufactures of .....	Statistics of Manufactures .....	VI	432	442
Saint Louis, Mo., manufactures of .....	do .....	VI	432, 433	442, 443
Saint Paul, Minn., manufactures of .....	do .....	VI	434	444
Sale, John, special agent, collection of manufacturing statistics of Chelsea, Mass .....	do .....	VI	391	401
Salem, Mass., manufactures of .....	do .....	VI	434	444
Salt .....	do .....	VII	457	467
amount of, produced by the various processes, and the sources from which the brines are derived .....	Chemical Products and Salt .....		25	1015
and Chemical Products, Report on Manufacture of, by William L. Rowland .....	do .....	Table.	i-iv, 1-38	985-1028
boring in Michigan .....	do .....	Table.	29, 30	1010, 1020
brines of the United States .....	do .....		22	1012
cake, use of, in glass manufacture .....	Glass Manufacture .....	Table.	18, 31, 32	1056, 1069, 1070
common, prepared for market, analyses of .....	Chemical Products and Salt .....		57	1017
deposits in Louisiana .....	do .....		20	1019
in Texas .....	do .....		35	1025
ground .....	Statistics of Manufactures .....	VII	457	467
or refined .....	Chemical Products and Salt .....	Table.	25	1015
industry, comparative statement of the, according to the census reports of 1880, 1870, and 1860 .....	do .....	Table.	26	1016
in California .....	do .....		28	1018
in Massachusetts .....	do .....		20	1019
in Michigan .....	do .....	Table.	20-31	1019-1021
in Nevada .....	do .....		31	1021
in New York .....	do .....	Table.	31-38	1021-1023
in Texas .....	do .....		35	1025
in Utah .....	do .....		35, 36	1025, 1026
in Virginia .....	do .....		36	1026
in West Virginia and Ohio .....	do .....		38-35	1023-1025
summary of the condition of the, in 1870 and 1880, respectively, with percentage of increase or decrease .....	do .....		24	1014
power used in manufacture of .....	Power used in Manufactures .....	Table.	16	598
production of a number of the principal states and territories from 1870 to 1880, with percentages .....	Chemical Products and Salt .....	Table.	26	1019
rock and brines in the United States, analyses of .....	do .....	Table.	27	1017
used, amount of .....	do .....		28	1018
in the manufacture of glass .....	Glass Manufacture .....		32	1070

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Salt Lake City, Utah, manufactures of.....	Statistics of Manufactures.....	VI	435	445
Salt-works in Pennsylvania, first.....	Chemical Products and Salt.....		35	1025
Saltzburghers, of Ebenezer, Ga., and their raw silk exportations prior to the Revolution.....	Silk Manufacture.....		11	915
Salviati and Venetian glass-making.....	Glass Manufacture.....		65	1103
San Antonio, Tex., manufactures of.....	Statistics of Manufactures.....	VI	495	445
Sand and emery paper and cloth.....	do.....	III	70	80
and prepared quartz, relative cost of, in Vienna.....	Glass Manufacture.....		28	1060
used in the glass manufacture.....	do.....	Tables.	24-30	1002-1068
Sand-boxes first used.....	Interchangeable Mechanism.....		45	661
Sandiver, or glass-gall.....	Glass Manufacture.....		39, 43	1068, 1081
San Francisco, Cal., manufactures of.....	Statistics of Manufactures.....	VI	435-437	445-447
Sash, doors, and blinds.....	do.....	III	70	80
power used in manufacture of.....	Power used in Manufactures.....	Table.	10, 17	508, 509
Satinets.....	Wool Manufacture.....	Table.	10	972
Sauces, pickles, and preserves.....	Statistics of Manufactures.....	III	65	75
Savannah, Ga., manufactures of.....	do.....	VI	437	447
Savings-bank records of factory towns in Europe.....	Factory System.....		30	562
Sawed lumber.....	Statistics of Manufactures.....	VII	454, 455	464, 465
Saw-mill industry, extent and geographical distribution, of the.....	Introductory Remarks.....		xix	*19
Saws.....	Statistics of Manufactures.....	III	70	80
manufacture of.....	Hardware, Cutlery, and Edge-tools.....		18	724
Scales and balances.....	Statistics of Manufactures.....	III	71	81
Scape-wheel cutting.....	Interchangeable Mechanism.....		66	682
Scarfs.....	Wool Manufacture.....	Table.	19	981
Scientific and professional instruments.....	Statistics of Manufactures.....	III	47	57
Scotland, glass-making in.....	Glass Manufacture.....		64	1102
Seranton, Pa., manufactures of.....	Statistics of Manufactures.....	VI	437	447
Screw-making in gun work.....	Interchangeable Mechanism.....		28	644
in sewing-machine work.....	do.....		40	656
in watch work.....	do.....		62-66	678-682
Serows.....	Statistics of Manufactures.....	III	71	81
Seythe-making.....	Interchangeable Mechanism.....		83	699
Sea-plants, soda from ashes of.....	Glass Manufacture.....		31	1000
Seaton, Charles W., appointment of, as Superintendent of Census. (See title page.).....	do.....		45	1083
Seed in glass, cause of.....	do.....		01	71
Seines and nets.....	Statistics of Manufactures.....	III		
Selected statistics of manufactures, by counties, in each state and territory.....	do.....	V	193-378	202-388
Serges.....	Wool Manufacture.....	Table.	12, 17	974, 979
Setting of pots.....	Glass Manufacture.....		41	1070
Seventh Census, the first at which reliable industrial returns were received.....	Introductory Remarks.....		viii	*8
Sewer and drain pipe.....	Statistics of Manufactures.....	III	34	44
Sewing-machine cases.....	do.....	III	71	81
Sewing machines, excellence of mechanism of.....	Interchangeable Mechanism.....		33	640
number of, in woolen factories.....	Wool Manufacture.....	Table.	5, 13, 15, 17, 18	667, 975, 977, 979, 980
Shades and blinds, window.....	Statistics of Manufactures.....	III	85	95
Shawls, knit.....	Wool Manufacture.....	Table.	19	981
woolen.....	do.....	Table.	10	972
worsted.....	do.....	Table.	11, 13	973, 975
Sheet glass.....	Glass Manufacture.....	Table.	29, 44	1058, 1082
Sheet-iron ware, copperware, and tinware.....	Statistics of Manufactures.....	III	78	88
Sherwood, Willis M., special agent, collection of manuf'g statistics of Saint Joseph, Mo.....	do.....	VI	432	442
Shingles, split.....	do.....	III	71	81
Shipbuilding.....	do.....	VII	458-463	468-473
Shirts.....	do.....	III	71, 72	81, 82
and drawers.....	Wool Manufacture.....	Table.	18	980
Shoddy.....	Statistics of Manufactures.....	III	72	82
Shoe and boot cut stock.....	Wool Manufacture.....	Table.	2, 7	964, 969
findings.....	Statistics of Manufactures.....	III	20	30
uppers.....	do.....	III	20	30
Shoes and boots (custom work, repairing, and factory).....	do.....	III	20, 21	30, 31
(factory industry only).....	do.....	VII	448	458
industry, extent and geographical distribution of the.....	Introductory Remarks.....		xx, xxi	*20, *21
power used in manufacture of.....	Power used in Manufactures.....	Table.	11	503
rubber.....	Statistics of Manufactures.....	III	21	31
Shorts, noils, etc.....	Wool Manufacture.....	Table.	13, 17	975, 979
Shot, and bar, pipe, and sheet lead.....	Statistics of Manufactures.....	III	51	61
Shovel-making.....	Interchangeable Mechanism.....		83	690
Show-cases.....	Statistics of Manufactures.....	III	72	82
Shrinking on of tires.....	Interchangeable Mechanism.....		44	600
Shutters and doors, iron.....	Statistics of Manufactures.....	III	47	57
Siam, cotton consumption of.....	Cotton Manufacture.....	Table.	2	942

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Slide-shaking jewels.....	Interchangeable Mechanism.....		65	081
Slöge shops worked in glassware factories, number of.....	Glass Manufacture.....		35	1073
Siemens, Friederich, quoted on use of alkaline rocks in Germany.....	do.....		28	1006
Siemens' furnaces used in glass manufacture in the United States.....	do.....	Table.	30-30	1074-1077
tank furnaces, use of, in Austro-Hungarian glass houses.....	do.....	Table.	44	1083
tempered glass.....	do.....		54	1092
process of manufacture of.....	do.....		54	1092
Silica in glass, proportion of.....	do.....		24	1002
Siliceous rocks, use of, in manufacture of glass.....	do.....		24	1002
Silk and silk goods.....	Statistics of Manufactures.....	III	72	82
power used in manufacture of.....	Power used in Manufactures.....	Table.	17	509
Asiatic.....	Silk Manufacture.....		18	922
culture, England's encouragement to colonists who engaged in the work of.....	do.....		2	900
history of, in the United States.....	do.....		7, 9, 11-13, 15, 16, 28	{ 911, 913, 915- 917, 919, 920, 932
domestic, early difficulties encountered in the manufacture of, through defective reeling.....	do.....		14	918
enterprises, interruption to, caused by the Revolutionary war.....	do.....		12	910
fringes and tassels, growth of the manufacture of, in New York.....	do.....		17	921
goods, improvement in the manufacture of.....	do.....		17	921
percentage of, made in the United States as compared with the whole consumption of goods in the country.....	do.....		21	925
industry, early efforts made for the introduction of the, in America.....	do.....		1, 2, 5, 8, 13	{ 905, 906, 900 912, 917
extent and geographical distribution of the.....	Introductory Remarks.....		xx	*20
production in 1850, 1860, 1870, and 1880.....	Silk Manufacture.....	Table.	24, 25	928, 920
in 1880, statistics of.....	do.....		26	930
in France, in the early part of the seventeenth century.....	do.....		1	905
lace manufacture.....	do.....		18	922
machinery in American mills.....	do.....		16, 18	920, 923
machinery, letter on the history of, by Mr. John E. Atwood.....	do.....		27, 28	931, 932
manufacture, chart of, in United States since 1874.....	do.....		22, 23	926, 927
Report on, by William C. Wyckoff.....	do.....		i-iii, 1-31	901-935
statement showing dates of starting, in various localities.....	do.....		18	922
mixed fabrics in South Carolina, manufacture of, by the French Huguenots.....	do.....		6	910
publications, list of the most noted.....	do.....		16	920
raising, employment of negroes in.....	do.....		6	910
speculation in, and its consequences.....	do.....		28	932
raw, and silk materials consumed in manufacture.....	do.....		27	931
earliest quotation of, in America.....	do.....		3, 4	907, 908
exportations of, by the Saltzburghers, of Ebenezer, Ga., prior to the Revolution.....	do.....		11	915
statement showing the amount of, exported from North and South Carolina to Great Britain between 1731 and 1755.....	do.....		7	911
values of imports and exports of.....	do.....	Table.	19	923
reeling, bounties offered in 1740 in Georgia for proficiency in the art of.....	do.....		9	913
sewing, manufacture of.....	do.....		13, 14, 19	917, 918, 923
spun, commencement of the manufacture of, at South Manchester, Conn.....	do.....		18	922
tapestry and its condition.....	do.....		18	922
trimmings, manufacture of, at Philadelphia in 1815, by William H. Horstmann.....	do.....		14	918
weaving, broad, and its introduction into England in 1620.....	do.....		4	908
Silks, manufacture of dress.....	do.....		18	922
Silkworms, introduction of, into America.....	do.....		1	905
Silver and gold leaf and foil.....	Statistics of Manufactures.....	III	43	53
reduced and refined (not from the ore).....	do.....	III	43	53
Silversmithing.....	do.....	III	72, 73	82, 83
Silverware.....	do.....	III	73	83
Simmons, Moses T., special agent, collection of manuf'g statistics of Atlanta, Ga.....	do.....	VI	382	392
Strups and cordials.....	do.....	III	32	42
Sixth Census, industrial statistics received at the.....	Introductory Remarks.....	Table.	vii	*7
Six-wheel connected locomotives.....	Interchangeable Mechanism.....		44	060
Sizing used in cotton manufacture.....	Cotton Manufacture.....		7	947
Skins, dressed, leather.....	Statistics of Manufactures.....	III	51	61
Skirtings, felt.....	Wool Manufacture.....	Table.	14, 15	976, 977
Skirts.....	do.....	Table.	19	981
Slag, blast-furnace, a glass (note).....	Glass Manufacture.....		20	1058
glass.....	do.....	Table.	54, 55	1092, 1093
Slate, marble, and marbled mantels.....	Statistics of Manufactures.....	III	56	69
Slater, Samuel, and the introduction of the Arkwright plan of spinning.....	Factory System.....		7	530

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Slaughtering and meat-packing industry, extent and geographical distribution of the effect of the occurrence of this industry in swelling the gross product of certain cities. (not including retail butchering establishments)	Introductory Remarks..... do .....		xviii xxiv	*18 *24
Sleds and carriages, children's	Statistics of Manufactures..... do .....	VII III	464, 465 26	474, 475 36
Slotting locomotive frames	Interchangeable Mechanism..... do .....		53 20	669 645
pistol frames	do .....		41	657
screw-heads	do .....		73	83
Smelting and refining (base scrap metal, not from the ore)	Statistics of Manufactures.....	III	4	536
Smith, Dr. Adam, and the influence of his work, the <i>Wealth of Nations</i>	Factory System .....		78	82
Smoking and chewing tobacco and snuff	Statistics of Manufactures.....	III	4	1042
Smoothing-machines in plate-glass factories, number of	Glass Manufacture .....		46	1084
plate-glass	do .....		399	400
Snow, Simeon, special agent, collection of manuf'g statistics of Cambridge, Mass.	Statistics of Manufactures.....	VI	78	88
Snuff and chewing and smoking tobacco	do .....	III	429	439
Snyder, John B., special agent, collection of manuf'g statistics of Reading, Pa	do .....	VI	73	83
Soap and candles	do .....	III	68	78
Society banners, emblems, and regalia	do .....	III	31	1069
Soda, ancient, impure	Glass Manufacture .....		12-16	1002-1006
and its uses	Chemical Products and Salt .....		58	68
and mineral waters	Statistics of Manufactures.....	III	31	1069
ash, Leblanc's discovery of	Glass Manufacture .....		32	1070
manufacture of, in the United States	do .....		18	1056
used in glass manufacture, amount of	do .....	Table.	13	1003
deposit of Carson desert, Churchill county, Nevada	Chemical Products and Salt .....		14	1004
of Wyoming territory	do .....		13	1003
salts, consumption of, in the United States during the census year	do .....		31	1069
Spanish, of Alicant	Glass Manufacture .....		30-32	1068-1070
used in glass manufacture	do .....		73	83
water apparatus	Statistics of Manufactures.....	III	30	1068
window-glass, effect of dampness on	Glass Manufacture .....		16	26
Solder and Babbitt metal	Statistics of Manufactures.....	III	21	1059
Soluble glass	Glass Manufacture .....		31	1069
Solvay process for making soda	do .....		438	448
Somerville, Mass., manufactures of	Statistics of Manufactures.....	VI	2	942
South America, cotton consumption of	Cotton Manufacture .....	Table.		
<b>South Carolina:</b>				
History of iron industry in	Iron and Steel .....		96, 97	832, 833
of silk culture and silk manufacture in	Silk Manufacture .....		6, 11	910, 915
Manufactures, by specified industries, in	Statistics of Manufactures.....	IV	173, 174	183, 184
by totals of counties, in	do .....	IV	173	183
Phosphate, deposits in	Chemical Products and Salt .....		17	1007
Phosphates, analyses of, in	do .....		19	1009
Power used in manufactures in	Power used in Manufactures .....	Table.	28	520
Selected statistics of manufactures, by counties, in	Statistics of Manufactures.....	V	353-355	363-365
Statistics of the mining and shipping of phosphate rock in	Chemical Products and Salt .....	Tables.	18, 19	1008, 1009
Southern states, cotton manufactures in	Cotton Manufacture .....	Table.	15, 16	955, 956
Spain, cotton consumption of	do .....	Table.	2	942
glass-making in	Glass Manufacture .....		63, 66, 67, 70, 77	1101, 1104, 1105, 1108, 1115
history of iron industry in	Iron and Steel .....		34, 38	770, 774
Spanish barilla	Glass Manufacture .....		31	1069
glass, character of modern	do .....		67	1105
soda of Alicant	do .....		31	1069
Special agents, advantages of, in collecting industrial statistics	Introductory Remarks.....		viii, ix	*8, *9
chief, and assistants for cities, list of	Statistics of Manufactures .....	Table.	v-viii	5-8
expert. (See Expert special agents.)				
power given Superintendent of Census to appoint	Introductory Remarks.....		viii	*8
Specialties in glass-making in different countries	Glass Manufacture .....		69, 70	1107, 1108
Specified industries for the United States	Statistics of Manufactures.....	II	9-14	19-24
manufactures in each state and territory, by counties and by	do .....	IV	88-192	98-202
manufactures of 100 principal cities, by	do .....	VI	373-445	380-455
Spectacles and eyeglasses	do .....	III	73	88
Spices and coffee, roasted and ground	do .....	III	20	39
Spikes and nails, iron, cut and wrought	do .....	III	48	58
Spindles	Wool Manufacture .....	Table.	5, 13, 17, 18	967, 975, 979, 980
and looms, products of, in 1880, in the eastern states and New York	Factory System .....	Table.	52-54	584-586
in cotton manufacture	Cotton Manufacture .....	Table.	8, 15	948, 955
Spinning, Arkwright plan of, and its introduction by Samuel Slater	Factory System .....		7	530
contrivances by John Wyatt	do .....		2	534
development of	Cotton Manufacture .....		3, 4	943, 944

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Spinning jenny, first appearance of the, in America	Factory System		6	538
modes of	do		2	534
Split shingles	Statistics of Manufactures	III	71	81
Sporting goods	do	III	74	84
Spring beds and mattresses	do	III	58	68
Springfield, Ill., manufactures of	do	VI	438	448
Springfield, Mass., manufactures of	do	VI	438, 439	448, 449
Springfield, Ohio, manufactures of	do	VI	439	440
Springs, steel, car and carriage	do	III	74	84
Spun glass, definition of	Glass Manufacture		21	1059
Stained, cut, and ornamented glass	Statistics of Manufactures	III	42	62
glass, definition of	Glass Manufacture		20	1038
French	do		69	1107
statistics of, not included in Mr. Weeks' report	do		1	1039
Stamped ware	Statistics of Manufactures	III	74	84
Stamps, hand	do	III	44	54
Staples, making barbed fence	Hardware, Cutlery, and Edge-tools		10	710
Starch	Statistics of Manufactures	III	74	84
Stationery goods	do	III	75	85
Statistics of manufactures returned at the Tenth Census	do		i-x, 1-476	1-486
Steam and water-power, average amount of, per hand employed (1870-1880)	Power used in Manufactures		1	493
per square mile, by states and territories	do	Table.	6	498
in five sections of the United States, proportion of	do	Table.	7	499
percentage of the total, reported in each section of the United States.	do	Table.	7	499
proportion of, used in the principal industries in 1870 and 1880.	do	Table.	4	496
percentage of the total, reported in each state and territory	do	Tables.	3, 5	495, 497
engines and water-wheels, average power of (1870-1880)	do		1	493
fittings and heating apparatus	Statistics of Manufactures	III	75	85
introduction of, as a motor in mills	Factory System		56	588
Steel and iron industries, capital invested in	Iron and Steel		2	738
extent and geographical distribution of the	Introductory Remarks		xviii, xix	*18, *19
manufacture of the United States, aggregate of, by counties	Iron and Steel	VII	26-32	762-768
of, by states	do	VI	25	701
power used in manufacture of	Power used in Manufactures	Table.	14, 15	508, 507
Report on the Manufacture of, by James M. Swank	Iron and Steel		i-vii, 1-164	729-900
summary of statistics for 1880	do		1-9	737-745
Bessemer, invention and use of	do		128-127	859-863
production of	do		7	743
blister and crucible, invention and use of	do		120-123	858-859
car and carriage springs	Statistics of Manufactures	III	74	84
cast, axles for locomotives	Interchangeable Mechanism		44	660
boilers	do		45	661
decarbonizer, for gun-barrels	do		8	624
in locomotive work	do		40	665
low, for fire-boxes	do		45	661
plows	do		83	699
swords	Hardware, Cutlery, and Edge-tools		13, 14	719, 720
crucible, production of	Iron and Steel		8	744
engraving	Statistics of Manufactures	III	36	46
ingots, summary of production of	Iron and Steel	Table.	7	743
open-hearth, invention and use of	do		127-129	868-865
production of	do		8	744
pens	Statistics of Manufactures	III	64	74
Steigel's, Baron, glass works at Lancaster, Pa	Glass Manufacture		80	1118
Stemming tobacco	Statistics of Manufactures	III	79	89
Stencils and brands	do	III	75	85
Stereotyping and electrotyping	do	III	76	86
Sterrett, Joseph R., special agent, collection of manufacturing statistics of Erie, Pa	do	VI	401	411
Stiles, Dr. Ezra, experiments of, in the planting of mulberry trees	Silk Manufacture		13	917
Stoking-machines in gun manufacture	Interchangeable Mechanism		13-15	629-631
Stone and brick masonry	Statistics of Manufactures	III	57	67
earthen ware	do	III	70	86
marble work	do	III	56, 57	66, 67
Stoning watch parts	Interchangeable Mechanism		65	681
Store-pay	Glass Manufacture	Table.	8, 9	1046, 1047
Stourbridge pot-clay, analyses of	do	Table.	40	1078
Straightening gun-barrels	Interchangeable Mechanism		9, 10	625, 626
needles	do		42	658
Strass	Glass Manufacture		21	1059
use of, in imitations of precious stones	do		46	1084

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Straw and hay used in glass manufacture goods.....	Glass Manufacture.....	Table.	18	1056
Street and railroad cars and repairs.....	Statistics of Manufactures.....	III	76	86
Strike in glass, cause of.....	do.....	III	27	37
Strings in glass, cause of.....	Glass Manufacture.....		45	1083
Stuart, B. R., special agent, collection of manuf'g statistics of Charleston, S. C.....	do.....		45	1083
Sugar and molasses.....	Statistics of Manufactures.....	VI	391	401
refined, power used in manufacture of.....	do.....	III	77	87
refining, effect of the occurrence of this industry in swelling the gross product of certain cities.....	Power used in Manufactures.....	Table.	17	509
	Introductory Remarks.....		xxiv	*24
Suitings, woolen.....	Wool Manufacture.....	Table.	9, 12	971, 974
worsted.....	do.....	Table.	11, 13	973, 975
Sulphate glass.....	Glass Manufacture.....		31	1609
Sulphur and sulphuric acid, production and use of.....	Chemical Products and Salt.....	Table.	19, 20	1009, 1010
deposit in Calcasieu parish, La.....	do.....		19	1009
works of Humboldt station, Nev.....	do.....		19	1009
Sulphuric acid and sulphur.....	do.....	Table.	19	1009
Superintendent of Census given power to appoint special agents by act of March 3, 1879 "Suruts".....	Introductory Remarks.....		viii	*2
Surgical appliances.....	Cotton Manufacture.....		3	943
Swaging bullets or slugs.....	Statistics of Manufactures.....	III	77	87
Swan, Robert T., chief special agent, collection of manuf'g statistics of Boston, Mass.....	Interchangeable Mechanism.....		31	647
Swank, James M., his Report on Iron and Steel.....	Statistics of Manufactures.....	VI	355	355
Sweden and Norway, cotton consumption of.....	Iron and Steel.....		i-vii, 1-164	723-909
glass-making in.....	Cotton Manufacture.....	Table.	2	942
iron industry in.....	Glass Manufacture.....	Table.	28, 70, 76	1060, 1102, 1114
Switzerland, cotton consumption of.....	Iron and Steel.....		49, 153	776, 829
Swords, manufacture of.....	Cotton Manufacture.....	Table.	2	942
Syracuse, N. Y., manufactures of.....	Glass Manufacture.....	Table.	28, 70, 76	1060, 1102, 1114
Syria, rochette of.....	Iron and Steel.....		49, 153	776, 829
	Cotton Manufacture.....	Table.	2	942
	Hardware, Cutlery, and Edge-tools.....		15-17	721-723
	Statistics of Manufactures.....	VI	439, 440	443, 459
	Glass Manufacture.....		31	1609
<b>T.</b>				
Table covers.....	Wool Manufacture.....	Table.	14	976
Tags and labels.....	Statistics of Manufactures.....	III	59	69
Tallow and grease.....	do.....	III	49	59
Tank furnaces in glass manufacture.....	Glass Manufacture.....	Table.	4, 37-39	1042, 1075-1077
Tanned leather.....	Statistics of Manufactures.....	VII	452	462
Tanning of leather, extent and geographical distribution of the industry.....	Introductory Remarks.....		xxi	*21
Tapestry.....	Wool Manufacture.....	Table.	13	975
silk, and its condition.....	Silk Manufacture.....		18	922
Tapping barrels and gun parts.....	Interchangeable Mechanism.....		12, 28	628, 644
Tar and turpentine, not including farm products.....	Statistics of Manufactures.....	III	77	87
coal.....	do.....	III	29	39
Taunton, Mass., manufactures of.....	do.....	VI	440	450
Taxidermy.....	do.....	III	77	87
Tears in glass, cause of.....	Glass Manufacture.....		45	1083
Tear-sown bottles.....	do.....		61	1009
Teaser, duties of the.....	do.....		43	1041
Telegraph and telephone apparatus.....	Statistics of Manufactures.....	III	77	87
Telephone and telegraph apparatus.....	do.....	III	77	87
Tempered glass.....	Glass Manufacture.....		21, 52-54	1059, 1090-1092
Temple, N. H., glass-making in.....	do.....		61	1129
<b>Tennessee:</b>				
History of iron industry in.....	Iron and Steel.....		99, 160	825, 836
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	175, 176	185, 186
by totals of counties, in.....	do.....	IV	174, 175	184, 185
Power used in manufactures in.....	Power used in Manufactures.....	Table.	28	520
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	355-359	365-369
Tension of glass.....	Glass Manufacture.....		21	1059
Tenth and Ninth Censuses, comparison of the statistics of power, as returned at the.....	Power used in Manufactures.....	Table.	1	493
Census, returns of statistics of manufactures at.....	Statistics of Manufactures.....		i-x, 1-476	1-486
Tents and awnings.....	do.....	III	13	25
Terra-cotta ware.....	do.....	III	77	87
Terre Haute, Ind., manufactures of.....	do.....	VI	440	450
Terry.....	Wool Manufacture.....	Table.	12	974
<b>Texas:</b>				
History of iron industry in.....	Iron and Steel.....		111	847
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	179, 180	189, 190
by totals of counties, in.....	do.....	IV	178-179	188-189
Power used in manufactures in.....	Power used in Manufactures.....	Table.	28	520
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	359-361	369-371
The salt deposits in.....	Chemical Products and Salt.....		25	1625

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Textiles, dyeing and finishing .....	Statistics of Manufactures.....	VII	451	461
manufacture of, prior to 1767 .....	Factory System .....		2	534
mixed .....	Statistics of Manufactures.....	VII	454, 455	464, 465
Textile works, and the percentage of married women employed therein in Great Britain, Germany, and the United States.	Factory System .....		20	552
Theophilus' account of blown window-glass .....	Glass Manufacture .....		57	1095
Thevart's invention of plate-glass .....	do .....		56	1004
Thin pots, use of, in France .....	do .....		44	1082
Third Census, detailed information as to manufactures obtained at the (Appendix)....	Introductory Remarks.....		xli-xlix	*41-49
first introduction of statistics of manufactures at the .....	do .....		v	*5
Thomas, J. H., special agent, collection of manufacturing statistics of Dayton, Ohio....	Statistics of Manufactures .....	VI	308	408
Threading breech-screws .....	Interchangeable Mechanism .....		12	628
Thread, linen .....	Statistics of Manufactures .....	III	77	87
Threads in glass, cause of .....	Glass Manufacture .....		45	1083
Thrift and prosperity of the factory population in the United States .....	Factory System .....		31	563
Tile and brick .....	Statistics of Manufactures.....	VII	449	450
Tin amalgam, for mirrors, a German invention .....	Glass Manufacture .....		63	1101
Tin-foil .....	Statistics of Manufactures .....	III	78	88
Tinware, copperware, and sheet-iron ware .....	do .....	III	78	88
Tip-turning ovals .....	Interchangeable Mechanism .....		27	643
Tires, locomotive .....	do .....		44	660
Tobacco, chewing and smoking, and snuff .....	Statistics of Manufactures .....	III	78	88
cigars and cigarettes .....	do .....	III	79	80
pipes .....	do .....	III	65	75
stemming .....	do .....	III	79	80
Toledo, Ohio, manufactures of .....	do .....	VI	441	451
Tomlinson's classification of glass (note) .....	Glass Manufacture .....		20	1058
Tools .....	Statistics of Manufactures .....	III	79	80
handicraft, manufacture of .....	Hardware, Cutlery, and Edge-tools .....		1	707
Toughened glass .....	Glass Manufacture .....		21, 52	1050, 1000
Toys and games .....	Statistics of Manufactures .....	III	80	90
Transparent glass, earliest specimen of .....	Glass Manufacture .....		61	1009
Trenton, N. J., manufactures of .....	Statistics of Manufactures .....	VI	441, 442	451, 452
Trimnings for fruit-jars .....	do .....	III	30	40
Troy, N. Y., manufactures of .....	do .....	VI	442	452
Truck payment .....	Glass Manufacture .....		8	1046
Trucks, swiveling .....	Interchangeable Mechanism .....		45	661
Trunks and valises .....	Statistics of Manufactures .....	III	80	90
Tryon, James E., chief special agent, collection of manuf'g statistics of Detroit, Mich.	do .....	VI	399	409
Tucker, Isaac W., special agent, collection of manuf'g statistics of Columbus, Ohio....	do .....	VI	390	406
Tumblers, number made .....	Glass Manufacture .....		11	1049
Tumbler, the first pressed .....	do .....		58	1096
Turned and carved wood .....	Statistics of Manufactures .....	III	86	96
Turning and boring locomotive work .....	Interchangeable Mechanism .....		56	672
band- and balance-wheels .....	do .....		38, 39	654, 655
gun-barrels .....	do .....		9	625
needles .....	do .....		42	658
pitman pins .....	do .....		40	656
stocks .....	do .....		16	632
watch-plates .....	do .....		68	679
Turpentine and tar, not including farm products .....	Statistics of Manufactures .....	III	77	87
Turret-lathes .....	Interchangeable Mechanism .....		41	657
Tweeds .....	Wool Manufacture .....	Table.	10	972
Twine and cordage .....	Statistics of Manufactures .....	III	82	42
Type founding .....	do .....	III	80	99
Typing for gun dies .....	Interchangeable Mechanism .....		22	638
<b>U.</b>				
Ulsters .....	Wool Manufacture .....	Table.	10	981
Umbrellas and canes .....	Statistics of Manufactures .....	III	81	91
Undertakers' goods, and coffins and burial cases .....	do .....	III	20, 30	39, 40
Uniform standards of locomotives .....	Interchangeable Mechanism .....		47	663
system. (See Interchangeable system.)				
United States and Canada, cotton consumption of the .....	Cotton Manufacture .....	Table.	2	942
distribution of power in five sections of the .....	Power used in Manufactures .....	Tables.	7	499
Factory System of the, Report on the, by Carroll D. Wright .....	Factory System .....		i-v, 1-78	527-610
history of iron industry in the .....	Iron and Steel .....		55-154	701-800
(See this volume, <i>passim</i> .)				
Upholstering .....	Statistics of Manufactures .....	III	81	91
materials .....	do .....	III	81, 82	91, 92

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Upholstery goods.....	Wool Manufacture.....	Table.	12	974
Uppers, boot and shoe.....	Statistics of Manufactures.....	III	20	30
Ure's definition and classification of glass (note).....	Glass Manufacture.....		19, 20	1057, 1058
<b>Utah:</b>				
History of iron industry in.....	Iron and Steel.....		111	847
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	181	191
by totals of counties, in.....	do.....	IV	180	190
Power used in manufactures in.....	Power used in Manufactures.....	Table.	28	520
Salt production in.....	Chemical Products and Salt.....		35, 36	1025, 1026
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	381, 382	371, 372
Utica, N. Y., manufactures of.....	do.....	VI	442, 443	452, 453
<b>V.</b>				
Valentine, Elmer, special agent, collection of manufacturing statistics of Salem, Mass.....	do.....	VI	434	444
Valises and trunks.....	do.....	III	89	90
Values of capital, materials, products, wages. (See Capital, materials, products, wages.)				
Valve-gears, locomotive.....	Interchangeable Mechanism.....		45	661
Van Giesen, Henry, special agent, collection of manufacturing statistics of Paterson, N. J.....	Statistics of Manufactures.....	VI	420	420
Van Winkle, Daniel, jr., chief special agent, collection of manufacturing statistics of Hoboken and Jersey City, N. J.....	do.....	VI	405, 406	415, 416
Varec of Bretagne.....	Glass Manufacture.....		31	1069
Varnish.....	Statistics of Manufactures.....	III	82	92
Vases de verre, manufacture of, in France.....	Glass Manufacture.....		66	1104
Vault lights and ventilators.....	Statistics of Manufactures.....	III	82	92
Vegetables and fruits, canned and preserved.....	do.....	III	40	50
Vehicles used in glass works.....	Glass Manufacture.....	Table.	5	1043
Veneering.....	Statistics of Manufactures.....	III	82	92
Venetian glass.....	Glass Manufacture.....		64, 65, 70, 76	{ 1102, 1103, 1108, 1114
Ventilation of the factories in Mulhouse, Alsace.....	Factory System.....	Table.	28	560
Ventilators and vault lights.....	Statistics of Manufactures.....	III	82	92
<b>Vermont:</b>				
History of glass-making in.....	Glass Manufacture.....		97	1135
of iron industry in.....	Iron and Steel.....		84	800
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	182, 183	192, 193
by totals of counties, in.....	do.....	IV	181, 182	191, 192
Power used in manufactures in.....	Power used in Manufactures.....	Table.	28, 29	520, 521
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	362-364	372-374
Vinegar.....	do.....	III	82	92
Vinous liquors.....	do.....	III	53, 54	63, 64
<b>Virginia:</b>				
Attempts at silk culture in.....	Silk Manufacture.....		2, 3	906, 907
History of glass-making in.....	Glass Manufacture.....		77, 78	1115, 1116
of iron industry in.....	Iron and Steel.....		92-96	828-832
Manufacture of beads in.....	Glass Manufacture.....		78	1116
Manufactures, by specified industries, in.....	Statistics of Manufactures.....	IV	184-186	194-196
by totals of counties, in.....	do.....	IV	183, 184	193, 194
Power used in manufactures in.....	Power used in Manufactures.....	Table.	29	521
Salt manufacture in.....	Chemical Products and Salt.....		36	1026
Selected statistics of manufactures, by counties, in.....	Statistics of Manufactures.....	V	364-368	374-378
Silk culture in.....	Silk Manufacture.....		5	909
Vulcanized rubber.....	Statistics of Manufactures.....	III	69	79
<b>W.</b>				
Wadhams, F. E., chief special agent, collection of manufacturing statistics of Albany and Troy, N. Y.....	do.....	VI	381, 442	391, 452
Wages.....	Wool Manufacture.....	Table.	{ 2, 5, 13-15, 17, 19	{ 904, 967, 975- 977, 979, 981
and work for fine cotton spinners, at different periods, from the wages-books of Mr. Thomas Houldsworth, of Manchester, England.....	Factory System.....	Tables.	30	571
annual settlement of, in glass factories.....	Glass Manufacture.....		8	1046
average, paid men and women in a large number of factories in New England during the years 1842-'43.....	Factory System.....	Table.	45	577
average, paid to girls (women) per week in the year 1828, for two of the best known factories in Massachusetts.....	do.....		44	576
average weekly, of men, women, and boys in English cotton factories in 1870-'71 in chemical manufacture.....	do.....	Tables.	43	575
in cotton manufacture.....	Chemical Products and Salt.....		1	991
in English cotton factories, progress of, under factory system, from 1835 to 1860, weekly, average, return of, in the years 1839, 1849, and 1859.....	Cotton Manufacture.....	Table.	11, 13	951, 953
	Factory System.....	Tables.	40-42	572-574
	do.....	Table.	40, 41	572, 573
in glass manufacture.....	Glass Manufacture.....	Tables.	6, 7	1044, 1045

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of tablo.	Page.	
Wages in iron manufacture .....	Iron and Steel .....		9	745
in silk manufacture .....	Silk Manufacture .....	Table.	27	931
of carders, reelers, and doublers at different periods .....	Factory System .....	Table.	39	571
of cotton operatives of the west of Scotland for the years 1851, 1856, and 1858 .....	do .....	Table.	43	575
of hand-loom weavers .....	do .....	Table.	44	576
of mechanics .....	do .....	Table.	40	572
of piccers .....	do .....	Table.	40	572
paid, 1850-1880 .....	Introductory Remarks .....	Tables.	xii-xvi	*12-16
by Messrs. Ashton, of Hyde, for a specific class of work from 1816 to 1832 .....	Factory System .....	Table.	40	572
cotton-factory operatives in Great Britain during the years 1860-1882 .....	do .....	Table.	44	576
different classes of operatives in the Glasgow mills in April, 1832 .....	do .....	Table.	39	571
for hand-mule spinning .....	do .....	Table.	41	573
for power-loom weaving in the manufacture of cotton cloths, etc., in the years 1830, 1840, and 1859 .....	do .....	Table.	41	573
for various grades and kinds of goods, in many representative cotton factories in the New England states and New York, with collateral facts important in their consideration, compiled from the results of an original investigation conducted in the year 1880 .....	do .....	Table.	40-51	581-583
for weaving a six-quarter 60-reed cambric, 120 picks in one inch, in Bolton, in the years 1795 to 1834, inclusive .....	do .....	Table.	36	563
for weaving the second quality of 7 4's calico, in the neighborhood of Burnley and Skipton, in the years 1802 to 1833, inclusive .....	do .....	Table.	36	563
in various industries in Massachusetts for the years 1860, 1872, 1878, and 1880-'81, gold values .....	do .....	Table.	48	589
progress of, in the United States from 1840 to 1880 .....	do .....	Table.	46-48	573-580
rates of, under the factory system in America .....	do .....	Table.	44	576
to a varied class of workmen, statement of, prepared by the chamber of commerce of Manchester, and published by the board of trade .....	do .....	Table.	38	570
to males and females in the cotton mills of Lancashire in 1832 .....	do .....	Table.	38	570
total amount paid during the census years 1886, 1870, 1860, 1850 .....	Statistics of Manufactures .....	I	5-8	15-18
Wagon and carriage materials .....	do .....	III	25, 26	35, 36
Wagons and carriages .....	do .....	III	26, 27	36, 37
extent and geographical distribution of the manufacture of .....	Introductory Remarks .....		xxi, xxii	*21, *22
in glass factories, number of .....	Glass Manufacture .....	Table.	4, 5	1042, 1043
Waists, knit .....	Wool Manufacture .....	Table.	19	981
Walker, Francis A., date of appointment and resignation of, as Superintendent of Census. (See title page.) .....				
letter of, on manufacturing statistics of Philadelphia, Pa. ....	Statistics of Manufactures .....		424, 425	434, 435
Washers, bolts, nuts, and rivets (iron) .....	do .....	III	47	57
Washing-machines and clothes-wringers .....	do .....	III	82, 83	92, 93
<b>Washington (territory of):</b>				
History of iron industry in .....	Iron and Steel .....		112	848
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	189, 187	190, 197
by totals of counties, in .....	do .....	IV	186	196
Power used in manufactures in .....	Power used in Manufactures .....	Table.	29	521
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	368, 369	378, 379
Washington, D. C., manufactures of .....	do .....	VI	443	453
Watch and clock materials .....	do .....	III	83	93
repairing .....	do .....	III	83	93
cases .....	do .....	III	83	93
Watches .....	do .....	III	84	94
Water and steam-power, average amount of, per hand employed (1870-1880) .....	Power used in Manufactures .....		1	493
in each state and territory (1880) .....	do .....	Table.	5	497
in five sections of the United States .....	do .....	Tables.	7	499
per square mile, in each state and territory .....	do .....	Table.	6	498
proportion of, used in the principal industries in 1870 and 1880 .....	do .....	Table.	4	496
Water-glass .....	Glass Manufacture .....		20, 21	1053, 1059
Water-power, percentage of the total, reported in each section of the United States .....	Power used in Manufactures .....	Tables.	7	490
Waterproof cloaking and repellants .....	Wool Manufacture .....	Table.	972	
Waters, mineral and soda .....	Statistics of Manufactures .....	III	58, 59	68, 69
Water-wheels and steam-engines, average power of (1870-1880) .....	Power used in Manufactures .....		1	493
Watson, Elkanah, on glass-making in Albany .....	Glass Manufacture .....		93	1131
Watt, James, and his inventions .....	Factory System .....		4	536
Waves in glass .....	Glass Manufacture .....		45	1033
Weather, influence of, on composition of glass .....	do .....		41	1079
on melting glass .....	do .....		41	1079
Webb, Thomas, & Son, quoted on American sand .....	do .....		26	1064
Weeks, Joseph D., his Report on the Manufacture of Glass .....	do .....		i-x, 1-114	1029-1153
Welding gun-barrels, loss in .....	Interchangeable Mechanism .....		8	624
Wellsburg, W. Va., manufacture of glass at .....	Glass Manufacture .....		78	1110

INDEX TO VOLUME ON MANUFACTURES.

1197

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Western states, cotton manufactures in the.....	Cotton Manufacture .....	Table.	15, 16	955, 956
extension of certain industries in the .....	Introductory Remarks .....		xviii, xxi	*18, *21
West Indies, cotton consumption of .....	Cotton Manufacture .....	Table.	2	942
<b>West Virginia :</b>				
History of glass-making in .....	Glass Manufacture .....		78, 79	1116, 1117
of iron industry in .....	Iron and Steel .....		95, 96	631, 622
of the salt industry in .....	Chemical Products and Salt .....	Tables.	33-35	1023-1025
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	183	198
by totals of counties, in .....	do .....	IV	187	197
Power used in manufactures in .....	Power used in Manufactures .....	Table.	29	521
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	369-371	373-381
Whalebone and rattan .....	do .....	III	84	94
Wheel-and-axle work, agricultural implements .....	Interchangeable Mechanism .....		84	700
Wheelbarrows .....	Statistics of Manufactures .....	III	84	94
Wheeling, W. Va., glass manufacture at .....	Glass Manufacture .....		29, 78, 79	1067, 1116, 1117
manufactures of .....	Statistics of Manufactures .....	VI	444	454
Wheel-press, hydraulic .....	Interchangeable Mechanism .....		57	673
Wheelwrighting .....	Statistics of Manufactures .....	III	84	94
Whetstones and hones .....	do .....	III	46	56
Whips .....	do .....	III	84, 85	94, 95
White glass, French, character of .....	Glass Manufacture .....		69	1167
Whitney, Eli, and the American cotton-gin .....	Factory System .....		7	529
Wiley, J. F., special agent, collection of manufacturing statistics of Elizabeth, N. J. ....	Statistics of Manufactures .....	VI	400	419
Wilkesbarre, Pa., manufactures of .....	do .....	VI	444	454
Williams, Edward, essay of, on the production of silk in 1650 .....	Silk Manufacture .....		4	968
Willow-ware and rattan baskets .....	Statistics of Manufactures .....	III	17	27
Wilmington, Del., manufactures of .....	do .....	VI	444, 445	454, 455
Winckelman's views on the antiquity of window-glass .....	Glass Manufacture .....		56	1094
Windmills .....	Statistics of Manufactures .....	III	85	95
Window blinds and shades .....	do .....	III	85	95
Window-glass, analyses of .....	Glass Manufacture .....	Tables.	23	1061
ancient, character of .....	do .....		56	1094
blown .....	do .....		50, 57	1038, 1095
capital invested in manufacture of .....	do .....	Tables.	3	1041
chemical composition and classification of .....	do .....		20	1058
consolidated statistics of, production, etc .....	do .....	Tables.	12	1050
constituents of .....	do .....	Table.	42	1050
factories, definition of .....	do .....		1	1039
in Germany, early manufacture of .....	do .....		63	1161
largest size of, made .....	do .....		51	1089
manufacture in Europe .....	do .....	Tables.	69, 71, 73	1107, 1109, 1111
method of manufacture of .....	do .....		50	1058
number of boxes of, made, and average value per box .....	do .....		9, 10	1047, 1048
price of, in 1797 .....	do .....		83	1121
relative productive rank of the states in .....	do .....	Tables.	9	1047
Siemens' tank furnaces for, illustration of .....	do .....		39	1077
time of melting in English houses .....	do .....		44	1082
works, number of pots in .....	do .....	Table.	3	1041
Wire .....	Statistics of Manufactures .....	III	85	95
Wirework .....	do .....	III	85, 86	95, 96
Wire-working .....	Hardware, Cutlery, and Edge-tools .....		9	715
<b>Wisconsin :</b>				
History of iron industry in .....	Iron and Steel .....		109, 110	845, 846
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	189-191	199-201
by totals of counties, in .....	do .....	IV	189	199
Power used in manufactures in .....	Power used in Manufactures .....	Table.	30	522
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	371-378	381-388
Women and children employed in manufacturing industry .....	Introductory Remarks .....	Tables.	xxxiv, xxxv	*34, *35
employed in chemical manufacture .....	Chemical Products and Salt .....		1	991
in manufactures. (See statistical tables of this volume generally; also, Introductory Remarks.) .....				
in glass factories .....	Glass Manufacture .....		6	1044
operatives and the German law .....	Factory System .....		23	555
Women's clothing .....	Statistics of Manufactures .....	III	29	39
Wood, amount of, used in glass manufacture .....	Glass Manufacture .....	Table.	18	1056
in woolen manufacture .....	Wool Manufacture .....	Table.	8, 13-15, 17, 19	970, 975-977, 979, 981
and ivory rules .....	Statistics of Manufactures .....	III	69	79
ashes, potash made from .....	Glass Manufacture .....		32	1070
engraving .....	Statistics of Manufactures .....	III	36	46
furnaces, number of .....	Glass Manufacture .....		4	1042
kinding .....	Statistics of Manufactures .....	III	50	60

Subject.	Subject of monograph.	Monograph folio.		General folio (at bottom of page).
		Number of table.	Page.	
Wood preserving .....	Statistics of Manufactures .....	III	86	96
pulp .....	do .....	III	86	96
screws, manufacture of .....	Hardware, Cutlery, and Edge-tools .....		11	717
turned and carved .....	Statistics of Manufactures .....	III	86	96
work, sewing-machine .....	Interchangeable Mechanism .....		42	658
Wooden handles .....	Statistics of Manufactures .....	III	45	55
packing-boxes .....	do .....	III	22	32
ware .....	do .....	III	87	97
Wool .....	Wool Manufacture .....	Table.	{ 2, 6, 12, 14- 16, 19	964, 968, 974, 970-973, 981
hats, power used in the manufacture of .....	Power used in Manufactures .....	Table.	18	510
woolen goods, and worsted goods .....	Wool Manufacture .....	Table.	2, 9-13	964, 971-975
Woolen goods, power used in the manufacture of .....	Power used in Manufactures .....	Table.	17, 18	509, 510
worsted goods, and wool hats .....	Wool Manufacture .....	Table.	2, 9-13	964, 971-975
Industry, extent and geographical distribution of the .....	Introductory Remarks .....		xx	*29
Manufacture, Report on, by George William Bond .....	Wool Manufacture .....	Table.	i-iii, 1-22	959-984
Worcester, Mass., manufactures of .....	Statistics of Manufactures .....	VI	445	455
Work cattle not suited for quick-running agricultural machinery .....	Interchangeable Mechanism .....		78	694
Worsted goods, power used in manufacture of .....	Power used in Manufactures .....	Table.	18	510
wool hats, and woolen goods .....	Wool Manufacture .....	Table.	2, 9-13	964, 971-975
Wright, Carroll D., his Report on the Factory System of the United States .....	Factory System .....		i-v, 1-78	527-616
Wristers .....	Wool Manufacture .....	Table.	10	981
Wrought and cut iron nails and spikes .....	Statistics of Manufactures .....	III	48	58
Wrought-iron pipe .....	do .....	III	48	58
railings .....	do .....	III	48	58
Wyatt, John, and his spinning contrivances .....	Factory System .....		2	534
Wyckoff, William C., his Report on Silk Manufacture .....	Silk Manufacture .....		i-iii, 1-31	961-935
<b>Wyoming:</b>				
History of iron industry in .....	Iron and Steel .....		111	847
Manufactures, by specified industries, in .....	Statistics of Manufactures .....	IV	192	262
by totals of counties, in .....	do .....	IV	191	261
Power used in manufactures in .....	Power used in Manufactures .....	Table.	90	522
Selected statistics of manufactures, by counties, in .....	Statistics of Manufactures .....	V	378	358
Soda deposits in .....	Chemical Products and Salt .....		14	1904
<b>Y.</b>				
Yarn manufactured: Cotton .....	Wool Manufacture .....	Table.	19	981
Mixed woolen and worsted .....	do .....	Table.	19	981
Woolen .....	do .....	Table.	10, 12, 17, 19	{ 972, 974, 979, 981
Worsted .....	do .....	Table.	11, 13, 17	973, 975, 979
Yarn used: Cotton .....	do .....	Table.	19	981
Merino .....	do .....	Table.	18	980
Shoddy .....	do .....	Table.	13, 17	975, 979
Silk .....	do .....	Table.	13	975
Woolen .....	do .....	Table.	7, 13, 17, 19	{ 969, 975, 979, 981
Worsted .....	do .....	Table.	7, 13, 17, 19	{ 969, 975, 979, 981
Yeast and baking powders .....	Statistics of Manufactures .....	III	16, 17	20, 27
Youths employed in manufactures. (See the statistical tables of this volume generally; also, Introductory Remarks.) .....	Glass Manufacture .....		5	1043
in glass factories .....				
<b>Z.</b>				
Zinc .....	Statistics of Manufactures .....	III	87	97

scarcity of glass during the war led to the erection of works in this and other states. That there were glass works of some importance in Pennsylvania at its close appears from Lord Sheffield's letter, written shortly after peace was declared. (a) In November, 1787, the Society for the Encouragement of Manufactures offered a gold medal for the best specimens of flint glassware and bottles. It is hardly to be supposed that a \$20 gold medal was offered as an inducement to parties to undertake the manufacture of flint-glass, but rather as a premium to works already in existence for the best samples of their products, and the fact that window-glass is not mentioned would indicate either that window-glass was not made, or that its manufacture was so well established as not to need encouragement. Some time between 1780 and 1786 Robert Morris and John Nicholson erected works at the falls of the Schuylkill for the manufacture of some kind of glass, probably window-glass. The glass house was about opposite the dwelling of Governor Mifflin, and a row of stone houses a little lower down the river was built to accommodate the hands working in this establishment. John Thoburn, about 1808, altered the glass house for the purpose of a calico-printing establishment, and the building was still standing in 1856. (b) Mr. Eichbaum, who had charge of the erection of the Craig & O'Hara window-glass works at Pittsburgh in 1797, was "superintendent of glass works at Falls of Schuylkill, near Philadelphia". (c)

Thomas Harrison, Philip Jones, and Robert C. Martin, who were interested in other business (which, however, they did not abandon), invested a portion of their capital in the manufacture of green and flint glass, which they made at the glass house, South street, near the Schuylkill, in 1806-'07, and manufactured largely in 1808 green and white half-gallon, quart, and pocket bottles. This establishment consisted of a brick glass house, forty-three feet square, a brick warehouse, fifty by forty-three feet, and a small house and stable. Philip Jones & Co. were proprietors in 1810. (d) It is doubtful if this "white" glass could have been what is known as white to-day; for if it was, it must have been made in the same furnace as the green glass—a difficult operation.

The Schuylkill glass works, "two miles from Philadelphia," which were in operation in 1819, were the same South street works, and Edward Lowber, drug and color merchant, at No. 144 North Third street, had for sale in September, 1819, window-glass from those works. Caleb Foulke was agent for these works at No. 19 Minor street; but in 1820 George and Jacob Peterman, flour merchants, were agents, at No. 366 High street, for the Schuylkill window-glass manufactory, in South street, near the Schuylkill river. In May, 1822, H. & W. Lawrence advertised that the Schuylkill glass works were to let; and in February, 1823, George and Jacob Peterman gave notice that they had again undertaken the "agency of the Schuylkill glass works at South street wharf, recently called the Philadelphia works", and that they had for sale window-glass of all sizes. (d) Thum & Bitters, of North Third street, made, in 1808, pint and half-pint pocket bottles and vials. (d)

Regarding the attempts to manufacture certain kinds of glass at this time and later and the causes of failure, Dr. T. W. Dyott (e) states that "the manufacture of ordinary descriptions of glassware, such as apothecaries' vials and bottles and the common varieties so extensively used for domestic and other purposes, was not successfully prosecuted in this country until long after the period of the late war (1812)".

Owing to the extravagantly high prices of imported vials, many efforts had been made previous to this time in the county of Philadelphia and in the state of New Jersey to establish this business, but in all instances they were unproductive, and were finally abandoned, with a heavy loss to those who projected or were concerned in them.

A number of causes interposed to prevent success in this branch of industry, and the failure of those who had first attempted its introduction among us afterward operated to discourage capitalists from engaging in it. Our knowledge of the business at this period was theoretical, without practice; and our workmen were equally deficient, having but an imperfect acquaintance with the mechanical part of their profession. The metal of our factories was inferior in quality and strength, yet produced from the finest materials and by the most expensive process; the articles we manufactured were also limited in quantity to one-half of what ought to have been produced out of the same amount of materials, yet so rude and shapeless in their appearance that purchasers seldom could be found if a foreign article could be obtained. During the war (1812) I became interested in a factory in New Jersey, which was the first establishment that continued in operation for any number of years, and which afterward became the principal school of instruction to the workmen who were subsequently employed in the business. At a later period two other factories were established, and were in successful operation until after the conclusion of the treaty of peace, when they were compelled to suspend business, owing to the importation of the foreign article, which was designedly sacrificed at auction by the British agents, who publicly acknowledged at the time that they were instructed to sell at any prices for the purpose of breaking up our factories. (f)

The furnaces at this time were rude affairs, designed to run only about six months in the year. In 1831, at the date of the tariff convention, several times referred to in this report, the Dyottville factory was the most extensive glass works in the United States, consisting of four furnaces, melting about 8,000 pounds of batch a day, and producing about 1,200 tons of glass per year, which was blown into apothecaries' vials, bottles, shop furniture, etc.

a His statement is: "There are glass works in Pennsylvania;" but he gives no further particulars. Had not the works been of some importance he would hardly have known of its existence.

b *Early History of the Falls of the Schuylkill*, etc., pp. 33 and 34. By Charles V. Hagner. Philadelphia, 1869.

c These works were managed in 1796 by Mr. Nicholson, as appears from a manuscript letter now in my possession from Mr. Eichbaum to Major Craig.

d Westcott's history of Philadelphia in *Philadelphia Sunday Dispatch*.

e See *An Exposition of the System of Moral and Mental Labor Established at the Glass Factory of Dyottville*. By T. W. Dyott, M. D. Philadelphia, 1833.

f See Dr. Dyott's *Exposition*.